FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

DECEMBER, 1950

OHIO STATE UNIVERSITY
1951

A Reversal of the Usual Procedure. A Battery of Eight Streams Operate Downward on a Paper Warehouse Fire in Philadelphia, Pa., Recently. Inside Operation of Lines, Even if Possible, Would Have Been Inadvisable Because of Floor Loading and Condition of Building

A CASE - SHEPPERD - MANN PUBLICATION

Suggesting A NEW MANUAL METHOD of artificial respiration

INhalation

EXhalation

We believe you will be interested to know of a new method of artificial respiration, requiring no equipment of any kind. Early experiments indicate that it ventilates a victim's lungs better than prone pressure, especially since it begins by getting breath IN instead of forcing more OUT. The method consists merely of lifting the hips a few inches and then lowering them.

Many variations are possible. Prone pressure may be used as part of the maneuver. In aiding very heavy persons, often only one hip needs to be lifted (rolling rather than raising the hips). In most cases swaying with straight arms (see pictures) makes lifting easy.

JOHN HAVEN EMERSON

Published References: Emerson, J. H., BULLETINS, 1948, 1949, 1950. Emerson, J. H., OCCUPATIONAL HAZARDS, 12:16, 1950. Thompson, T. C., JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 104:307, 1935. Garrison, D. L., SAFETY ENGINEERING, 99:18, 1950. Whittenberger, J. L. and Sarnoff, S. J., MEDICAL CLINICS OF NORTH AMERICA, 34:1349, 1950. New York Academy of Medicine, JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 144:25, 1950. Wood, J. R., JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 144:606, 1950.

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

CONTENTS

Vol. 103 December, 1950 No. 11

	Page
With the Editor — By Fred Shepperd	973
New Fire Alerting System — By Roi B. Woolley	974
Fire Departments Spark Fire Prevention Week — A Staff Report	978
Fire Service Ladders and Their Use—Part VIII — By Roi B. Woolley	981
Old Chicago Church Wrecked by Quarter Million Dollar Fire — By Paul C. Ditzel	983
Delayed Discovery Results in Heavy Loss at Warehouse Fire — By Earl Nolan	984
News of the Manufacturers	991
The Watch Desk — By Roi B. Woolley	992
Short Cuts and Gadgets	993
False Alarms	994
The Round Table — Fire Department Cooperation with Industries	996
Questions and Answers	1002
Persons in the News	1006
Obituaries	1006
What's Burning?	1008
World-Wide Fire News	1011
Correspondence	1014

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

Science and the Fire Service

"There are no incurable diseases, only diseases for which no cure has been found."

Bernard M. Baruch.

NOT so long ago the idea that water could extinguish burning oil and other volatiles was believed a fantastic dream. Today, as you know, it's a commonplace reality.

● There still are certain types of fires—for the most part products of this fast-paced chemical era in which we live, for which no present effective extinguishing mediums have been found. But that does not mean they will not be found! We only need gauge the future by the progress of the past decade to know that cures for all these, and forthcoming "fire ills" will be developed.

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● This scientific progress has been chronicled by FIRE ENGINEERING month after month. And that is one reason [among many] for the consistent growth of this Journal in editorial and advertising content, as well as in readership.

The Publishers

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The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage and Industrial Wastes Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $3.00 a year; Foreign, $4.00; Single copies, 35c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879.

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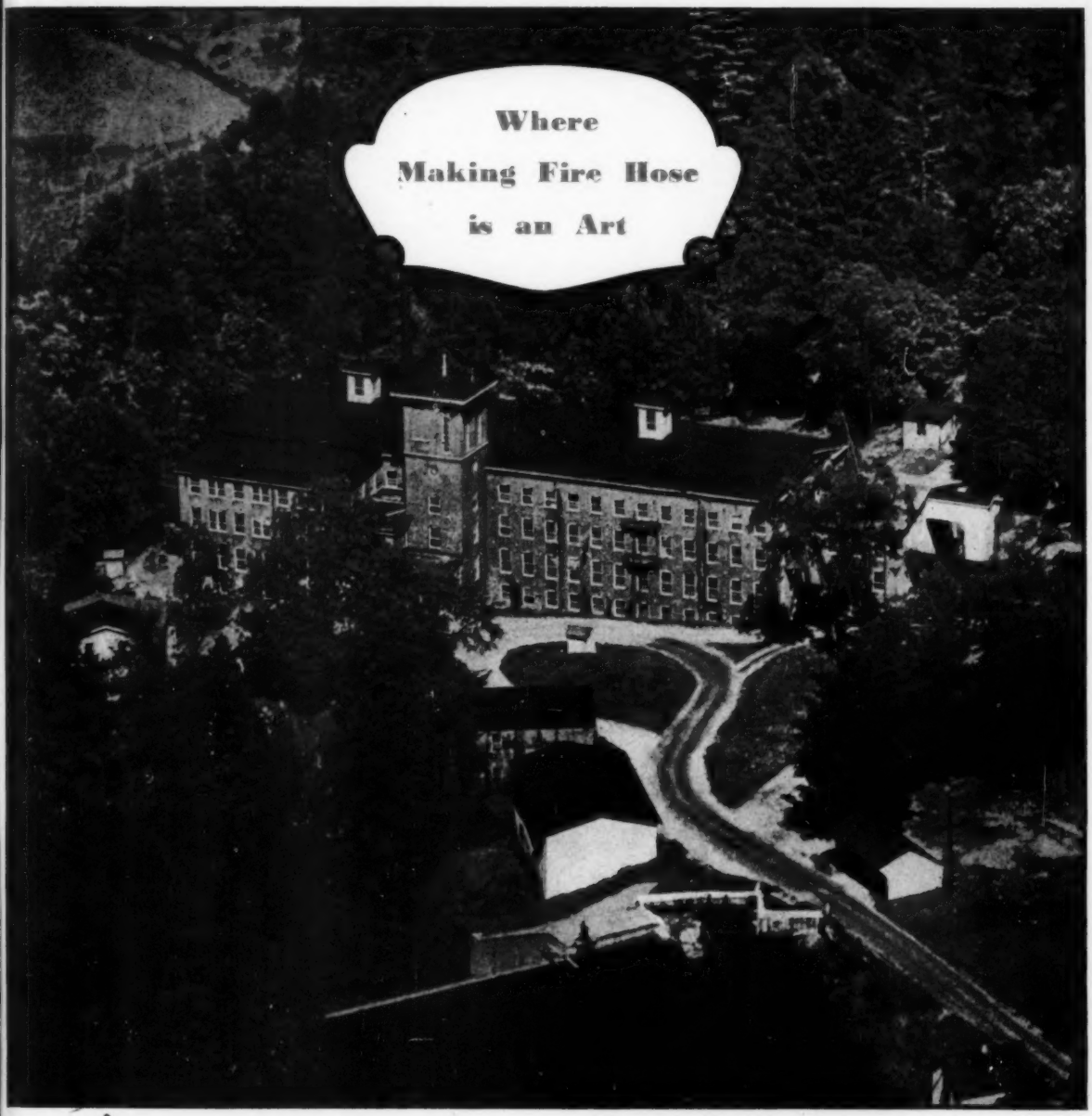

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AS HANDSOME DOES
...THAT'S

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All apparatus builders will be glad to include an ATLAS NET—all you do is SPECIFY ATLAS when you order new trucks.

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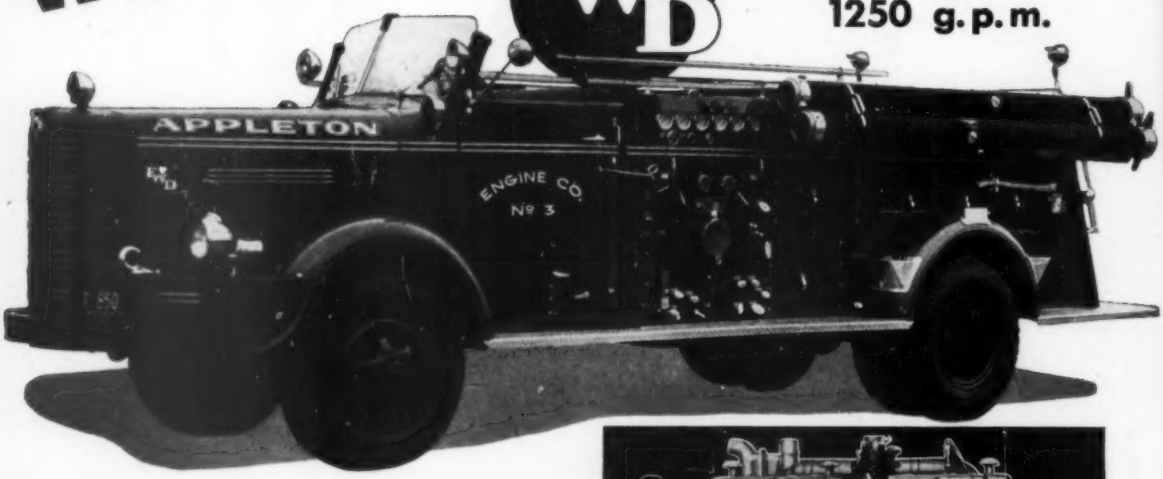

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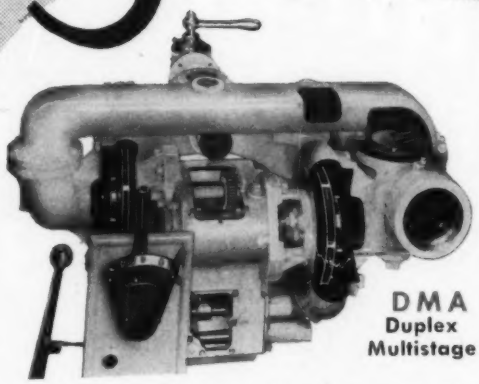
3 Great fire pumps



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UA-50
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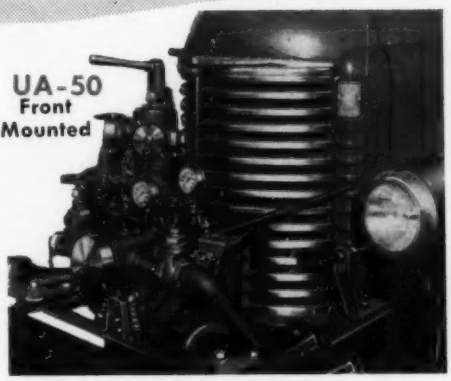

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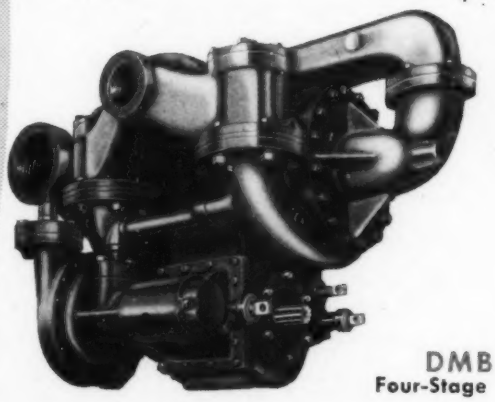

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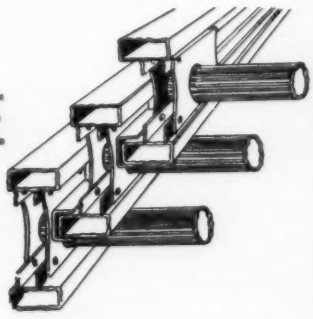

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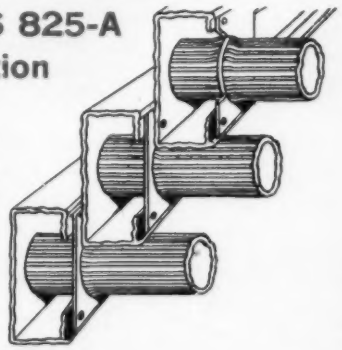

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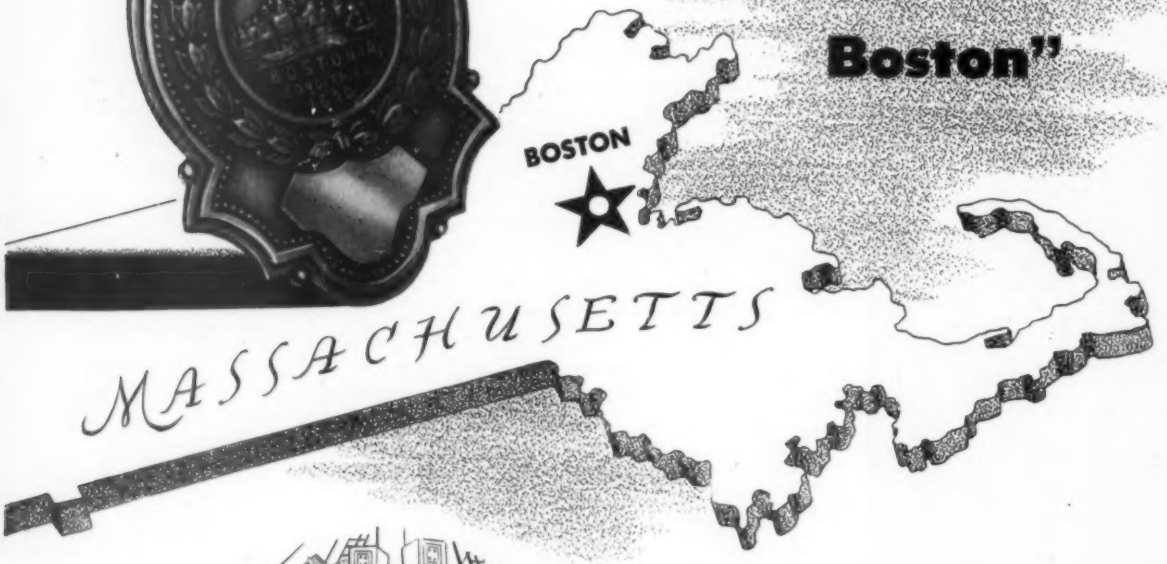

The sailing vessel Dartmouth pulled into Boston Harbor November 28th, 1773, with a cargo of the East India Company. An import duty of threepence was levied on this cargo by the Mother Country, to be paid at all American ports. The colonists answered this dictatorial tax by shouts of, "No taxation without representation." Later a group of colonists, under cover of darkness, and disguised as Indians, boarded the Dartmouth to have what history knows as the "Boston Tea Party."

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FOOD MACHINERY AND CHEMICAL CORPORATION

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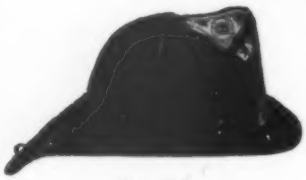


No. 5A
"NEW YORKER"
(Leather)

No other helmet made has ever shown the rugged stand-up-ability of this "pioneer" of all "regulation" helmets — which explains why it is first choice in the largest departments, where the duty is hardest.

No. 350
"SENATOR"
(Aluminum)

Where the preference is for aluminum, here is a rugged one-piece "regulation" helmet that is light, durable, safe and comfortable — and largely used by both regulars and volunteers, the country over.

No. 900
"CLIFTON"
(Flint-Flex)

"Regulation" in every line, this latest CAIRNS Helmet is made of "Flint-Flex"—a light, tough, flexible plastic that gives complete protection against impact, heat, electric current and chemicals.

DROP-BRIM MODELS

No. 550
SEAMLESS
(Leather)

A drop-brim style with seamless crown. Applied ribs have steel reinforcement. A tough, long-wearing leather helmet at lower cost.

No. 700
STREAMLINER
(Aluminum)

A feather-weight helmet with specially formed crown giving solid support to the front piece. The drop brim gives extra protection for eyes, ears and back of neck.

No. 720
COMMANDO
(Flint-Flex)

A utility model of CAIRNS Flint-Flex plastic. Safe and durable, with close-fitting front piece and new "snap-in" lining which makes installation or removal of the complete lining assembly a matter of seconds.

All Models Have CAIRNS Cushion Lining

Write for Catalog 331 showing everything a fireman needs for his personal equipment—together with Department Record Books, Secretary's Books, and printed forms.

CAIRNS & BROTHER, INC.

OUTFITTERS TO FIREMEN SINCE 1836
854 Bloomfield Ave., Allwood, Clifton, N. J.

The "LIFE-GUARD LINE" of

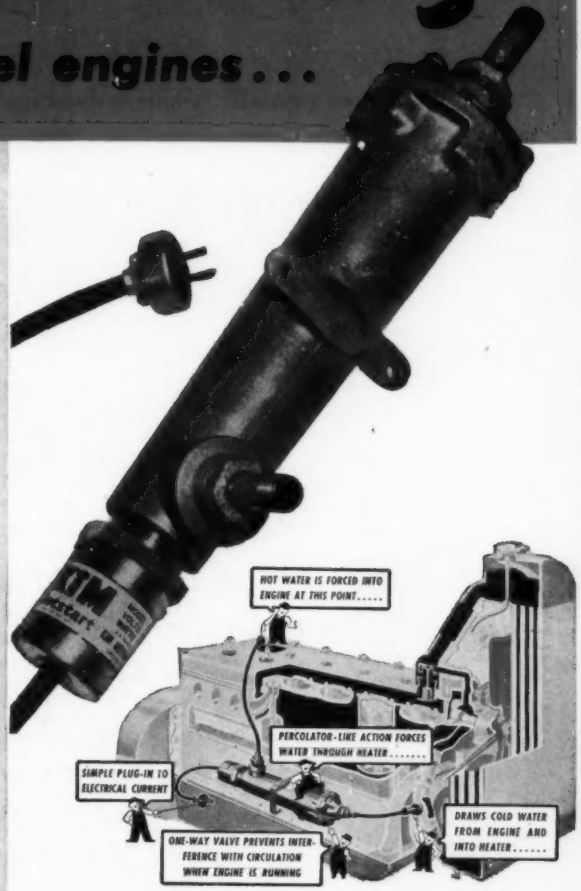
FIRE HELMETS

Stop Winter Damage

to your gas and diesel engines...

If you haven't yet learned the secret of protecting your engines against cold starts and destructive effects of cold weather, take a tip from the successful operators shown below. They have installed KIM Hotstarts on their equipment, save maintenance and operating dollars in five ways:

1. **Get quick, easy starts in any weather.**
2. **Save warm-up time.**
3. **Reduce engine wear and depreciation.**
4. **Prolong life of batteries.**
5. **Eliminate necessity of heated terminals.**


HOT WATER IS FORCED INTO ENGINE AT THIS POINT.....
PERCOLATOR-LIKE ACTION FORCES WATER THROUGH HEATER.....
SIMPLE PLUG-IN TO ELECTRICAL CURRENT
DRAWS COLD WATER FROM ENGINE AND INTO HEATER.....
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Join the list of KIM HOTSTART users

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Carnegie-Illinois Steel Corp.	*Edward Hines Lumber Company*
Inland Steel Company	*Kinzua Pine Mills*
Lone Star Cement Corp.	*Peter Kiewit Sons' Company*
Bethlehem Steel Company	*Morrison-Knudsen Company, Inc.*
General Electric Company	*Western Contracting Corporation*
Public Service of New Jersey	*Granby Constructors*
Dayton Power and Light	*Guy F. Atkinson Company*
Iowa Power and Light	*Shell Oil Company*
Utah Power and Light	*Sun Oil Company*
Washington Water Power Co.	*Phillips Petroleum Company*
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Please send literature and name of local dealer.

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Delayed Alarms Cost Lives in RESIDENTIAL DISTRICTS

According to the Fire Record

- **367,000 fires annually occur in dwellings (a recent 5 year average).**
- **⅔ of the *Life Loss* by fires occurs in dwellings.**

Public Fire Alarm Boxes Essential

The absence of quickly accessible and public means for calling the fire department contributes to delay and unnecessary fire waste. According to the Standards recommended by the National Fire Protection Association, it should not be necessary, in residential districts, to traverse more than one block or 500 feet in order to reach a public fire alarm box.

A "BOX A BLOCK"
IS ESSENTIAL PROTECTION

THE GAMEWELL COMPANY

Newton Upper Falls 64, Massachusetts

In Canada: Northern Electric Company, Ltd., Belleville, Ontario

DECEMBER, 1950

FIRE ENGINEERING

VOL. 103, NO. 12

With the Editor

Disaster is Their Business! Within two days of each other, two disasters struck the New York metropolitan area. Neither directly involved fire. Yet, in both, the fire service played the leading role.

On Thanksgiving eve a train collision on the Long Island Railroad brought death to 77 and injuries to hundreds. Two days later, the most violent storm of its kind ever recorded in the northeastern quarter of the U. S. claimed over 200 lives, 56 of them in the New York district, where 15,000 were made homeless. Light and power and communications service were cut off over a wide area.

One thing was common to both these catastrophes: the first emergency forces to be called, the *first* to respond and swing into action with the trained personnel, equipped for the complicated, intricate jobs introduced by the emergencies, was the fire service.

Both these tragedies evidenced the resourcefulness and dependability of the regularly established municipal emergency services to cope with crises, no matter what their degree or extent. Both attest the wisdom of pre-planning and preparing for disasters and tragedies such as these, which have always and will always plague the nation, regardless of made-to-order disasters which are a by-product of war.

Both these catastrophes confirm the contention of this Journal during World War II and after, that the heart and soul of civil defense should be the regular, trained and equipped emergency forces of the nation. And this includes the fire forces, both regular paid and volunteer.

The first few minutes of any emergency, whether like the New York tragedies, or following an enemy attack of whatever magnitude may well determine the ultimate scope and extent of the impending catastrophe.

This being true, it emphasizes the importance of early, adequate size-up and determination of the immediate and possible later crises.

Obviously, this is a task for the trained officer, experienced in disaster control, rather than the temporary civil defense director whose only claim to fame is that he is politically *persona grata*.

Where will you get this intelligent, calm, dispassionate size-up other than from the fire service? Where else will you get the trained manpower, the necessary equipment, and the will-to-do, capable of meeting the immediate and future emergencies?

Right now the nation is (in some quarters) feverishly preparing for atomic warfare. There is much talk about atomic attack, radioactive hazards, with heavy emphasis on evacuation and first aid treatment of personnel, decentralization and panic.

Right now civil defense is being organized to meet these atomic warfare hazards (where it is being organized, that is; for the most part civil defense is awaiting two things, as we have said editorially, leadership, and financial support!).

But right now civil defense preparedness appears to be going through the same throes as it did during World War II. The emphasis is on organizing supernumaries, auxiliaries and makeshift agencies. The regular, well-equipped and trained fire and other emergency services are either sidetracked altogether or given a place somewhere in the rear ranks. This is evidenced in some cities where the lessons of World War II are completely overlooked, or ignored; witness the order in New York City discontinuing the use of all sirens on emergency vehicles, an order promulgated without the advice and support of the local fire department, and quite evidently without consulting the records of World War II on this point.

If there ever was a foretaste of what an atomic bomb raid might do to the nation's greatest city, and how its fire department would meet the crisis it is to be found in the coincidental tragedies just recorded. If there ever was proof needed of the wisdom of organizing civil defense upon, and around the regular, established municipal services (fire and police and health) it is provided by these and scores of similar tragedies, and the operation of the emergency services in the moments of critical emergency.

If there ever was testimony of the wisdom of pre-planning for disaster, whatever its nature and extent, it is to be found in the case histories of these two most recent tragedies.

If there ever was proof needed of the importance of the fire service in the emergency defense picture, whether peacetime or wartime emergencies, it is afforded by these most recent incidents!

Fred Shepperd

New Fire Alerting System

A Novel Method that Brings the Alarm Direct to the Home of Each Volunteer Fireman

By ROI B. WOOLLEY

Editor's Note: **This is the first comprehensive report to the fire service of a new method of notifying volunteer firemen of fire alarms and other emergencies by means of carrier current superimposed on the regular light and power company service circuits.**

FIRE ENGINEERING is indebted to the two individuals most responsible for this development for their cooperation in making available the data upon which this report is based. They are: Henry Rippel, Superintendent of Fire Alarm, Rockville Centre Fire Department, Rockville Centre, L. I., and Harry J. Littlefield of the firm of Littlefield & Alger Signal Co., also of that Village.

Superintendent Rippel has long been identified with municipal signal engineering. He was formerly president of the Southern New York Section of the International Municipal Signal Association and is presently on its Board of Directors. Harry Littlefield is connected with the Littlefield-Alger Signal Company, specializing in municipal signaling. He became affiliated with Superintendent Rippel in the planning stages of the development of the "silent alarm" early in 1949 and his concern installed the Rockville Centre installation. Mr. Littlefield is also the designer of other signal devices applicable to the fire service.

MUCH has been written and said in the fire service about the evils of the delayed alarm. Not so much attention has been paid to the evils of delayed *response* of the fire fighting forces in reaching the fire or answering emergency calls. Yet both have a critical bearing upon the possible extent and seriousness of the fire, and upon the fire control and extinguishment operations.

Many factors contribute to delayed response of fire forces—both paid and volunteer. One, in particular, is peculiar to the latter classification and has been responsible more than any other for the difficulties encountered by volunteers in getting to work on fires in their initial stages. That is the inability to quickly, effectively alert the volunteer firemen at any and all hours of the day and night and to mobilize them at the scene of the fire or other emergency.

This is due to no lack of willingness or enthusiasm on the part of the volunteers themselves. It is almost entirely a communications problem. Given proper notification of the location of the emergency there is very little time lost by the volunteers in responding to the scene. The problem is to overcome the handicaps to prompt notification imposed by factors partially or entirely beyond the control of the fire service.

Calling the volunteers into action has long been one of the most serious weaknesses of our otherwise excellent American volunteer service. Since the days of the watchman's rattle, volunteers have sought to devise a means of alerting their forces that would speed response on a comparable basis with that of their fellow fire fighters in the paid, professional field. The necessity of improving over the old church bell and the combination of railroad locomotive tire, sledge hammer and bulging biceps increased as our communities grew in size and scope.

Introduction of the electric siren was probably the first notable improvement among public alarm facilities in the fire service. The next was unquestionably the coded horn or diaphone*. The coded signal, such as from the coded signal or diaphone air horn, or whistle, has materially helped speed the response of volunteers. By its means and numerals of real or phantom (imaginary) boxes are sounded and instead of heading for the fire station as they customarily do when an uncoded signal is sounded, firemen (with the exception of course of the drivers and any others who may have to ride the apparatus), proceed direct to the location indicated by the public alarm. It is not infrequent to find volunteer firemen at the scene of the fire or emergency, waiting for the arrival of the apparatus.

Notwithstanding the advantages of alerting the volunteers by this coded signal, there is still one fault to this method of public notification. For when a public alarm is sounded to alert the firemen, the general public are aroused as well. This not infrequently results in a race between John Q. Citizen and the volunteer fire fighters to see who can be first to the fire.

Lieutenant Herbert Maass of the Rockville Center Police Department Setting Up the Code Signal to Be Transmitted Over the Fire Alarm Telegraph Transmitter in Front of Which He Is Standing. Signal Goes Directly to Carrier Current Receiving Set in the Fireman's Home

Previous Remedies Not Generally Successful

There have been numerous efforts to develop some sort of an alerting signal that would selectively notify firemen of a fire or other emergency without publicizing the fact to the community at large.

A number of remedies have been developed to that end, some of which have been described in this Journal. Schemes to have the telephone company send out individual calls to fire department members in the event of fire, or of having the firemen's home and business telephones controlled by a master switch, so that all could receive a warning ring, have failed for one reason or another. The most promising solution, it was found, was to install some sort of alarm device in each fireman's home.

In Saskatchewan, one volunteer unit

*Coded electrically operated sirens and whistles are in use also.

Firemen Run from Their Homes to the Firehouse After Getting the Alarm Over the New Signal Device

attempted to control these warning devices—buzzers and bell transformers—by a separate circuit carried on power company's poles. The circuit might cover the entire town, with lead-ins extending into each dwelling housing a member of the department. An extension was led into the local skating rink where, instead of a buzzer or audible signal, a flashing lamp was arranged to give the signal.

There were other devices developed to wake up and get out the fire fighters. Most of these, however, developed some drawback or, because of cost, were unsuitable for broad use. None of them may be said to have met all basic requirements of the volunteer fire department—including simplicity, adaptability and low cost to install and maintain—until the advent of the "silent alarm"—the device that is the subject of this report.

The Rockville Centre Fire Department

Before we attempt to tell the story of the "silent alarm" from its inception to its trial installation and acceptance by the Rockville Centre, L. I., Fire Department, a brief description of that volunteer organization is in order.

Nassau County, N. Y., is famous for the extent and quality of its volunteer fire forces. Ranking high among the more progressive of these organizations is the Rockville Centre Fire Department whose chief engineer is Edmund P. Schmidt.

The department is made up of 300 volunteers, who receive no compensation. They are members of seven fire companies: Ladder Co. No. 1 (85-ft. aerial); Floodlight Co. No. 1 (Rescue truck); Hose 1 and 3 (each with 750 GPM pumper); Engine Co. No. 1 (1000 GPM pumper); Engine Co. No. 2 (1000 GPM pumper); and Engine Co. No. 4 (1000 GPM pumper). All equipment is driven, maintained and operated by volunteers.

Ladder 1, Engine 2 and the Floodlight Company, occupy the new fire headquarters building, proudly proclaimed by the Village as one of the most modern such headquarters on Long Island. The new structure was dedicated in May of this year and replaces one of the old firetrap stations. The balance of the companies occupy their own individual stations.

The chief and his two assistants (present occupants of the latter office are Karl Danker and Henry Mormile) are elected annually by the volunteer firemen and then appointed by the Board of Trustees of the Village. As property clerks of the community, the chief is paid $400 and his assistants $300 each annually. The three secretaries and the treasurer of the department receive a total of $1,400. There are no other paid positions except that of Superintendent of Fire Alarm which has been filled for many years by Henry Rippel.

The budget and expenditures of the department for the year 1949-50 and 51 are as follows:

BUDGET AND EXPENDITURES

	1949-50* Budget	1950-51 Budget
Salaries	$2,400.00	$2,400.00
Expenses	925.00	925.00
Supplies	20,850.00	20,897.00
Capital Reserve Fund	2,000.00	16,000.00
	$35,125.00	$49,897.40

*Actual expenditures in 1949-50 were $31,786.19. It is estimated that this amount is approximately one-eighth the expense of a full paid department.

The department maintains a Bureau of Fire Prevention, also manned by volunteers, which in the past year made 479 inspections of business and public buildings, uncovered 285 violations, of which all but five were remedied. Rockville Centre has practically no manufacturing industries. Over 6,000 of its inhabitants (population approximately 24,000) commute to their business in New York City.

Last year the department responded to 112 alarms, 100 of them being for fires; the other calls were for emergencies. Fire losses amounted to $196,461 for the period, a high for the Village. Approximately three-quarters of this total occurred in two disastrous night fires in commercial buildings.

Full Time Fire Alarm Superintendent

As previously mentioned, the only full-time paid member of the department is the Superintendent of Fire Alarm, Henry Rippel. He is in charge of all communications for the Village.

Fire alarm headquarters is situated in a small brick structure in the rear of Police Headquarters in the center of the Village. At present there are 71 fire alarm boxes in service in the 3.7 square mile area of the community. There are a number of phantom (imaginary) boxes which are being replaced by modern boxes under the Village's communications improvement program.

The present fire alarm system is rated as Class "B." There are at present two alarm and six box circuits which have their terminals in a new fire alarm board added in 1937 to replace the old open-front board previously in use.

All fire alarms are received at Police Headquarters, the telephone calls coming in through the police switchboard, the fire calls over the telegraph circuits at both Police and Fire Alarm Headquarters. It is possible to use either the Police or Fire Alarm Headquarters for receiving and dispatching fire calls. Both have switchboards and transmitters and it is possible to issue verbal instructions to all fire stations over a P.A. system from Fire Alarm Headquarters.

Box alarms are received and transmitted automatically to all fire houses and, as is explained later, to 100 of the department's firemen via the "silent alarm." Telephone, or "still alarms" are telephoned to two of the fire companies which are designated to respond to such calls. In sounding "stills," two rounds of "3" are tapped out on the alarm and box circuit, which is a signal for men in the fire houses to pick up their telephones for instructions.

The Rockville Centre Fire Department, in company with many others serving communities even smaller than its own, found that it was impossible to alert all of its volunteer members following receipt of an alarm of fire or for other emergency. The situation grew progressively worse as the Village expanded, as traffic of all kinds increased and tall apartment and other buildings were added. There were "dead spots" wherein members of the organization who resided there muffed out on response because they did not hear the public alarm siren.

Some years ago, in an effort to improve this situation, auxiliary sirens were mounted on the several fire houses scattered throughout the Village. But even with these sirens ranging from one-half to two-horsepower, the volunteers complained of inability to catch the coded signal, which is sounded over a three-way, large size air horn located on the water tower at the Municipal Light Plant.

The individual sirens, of which there are five, are not coded, nor is the main siren, a 5-horsepower unit located on top of Police Headquarters. These sirens are not manually operated but work automatically. The large siren on Headquarters has a control for a 15-second blast on still alarms. The other sirens all have timer units to determine the length of signals.

The coded signals, which follow the preliminary siren warnings, are sounded only on the large, master air horn at the Municipal Light Plant which also is the heart of the "silent alarm" system. This three-way, 6-8 and 10 in. horn gives a powerful, coded signal which should reach all parts of the village under normal conditions. Powerful as it is, however, when these conditions are not strictly normal—as, for example when a strong wind is blowing from the direc-

Deputy Chief and Mrs. Danker Shown in the Kitchen of Their Home with the Portable Fire Alarm Receiver Within Hearing Distance. Receiver Is Portable and Is Simply Plugged Into the Nearest Electric Outlet

tion of the ocean, as often occurs, large areas of the Village become "dead spots" and if it were not for the "silent alarm" volunteers living in these areas would not be alerted.

Village Plans to Have Its Own Fire Department Radio

At present, two-way radio is installed in the chief's car and the Floodlight and fire alarm trucks. These vehicles receive and transmit through Police Headquarters, sharing the frequency of 39.98 MC with the Police.

Such was the picture of the communications set up in the Village of Rockville Centre until 1949—a communications system that costs the community slightly less than $8,000 annually, including the salary of the Superintendent of Fire Alarm. That the Village has been conscious of the need for extending its communications facilities is indicated by the fact that recently a bond issue of $25,000 was authorized by the Village Board to improve the system, particularly in the northwest section.

This picture began to change materially in the summer and fall of 1949 as ideas and experiments conducted by Superintendent Rippel and the members of the Fire Alarm Committee, began to take shape, with the installation of the carrier "silent alarm" unit.

Actually the idea of devising some sort of system for alerting members of the local fire department had been uppermost in the mind of Superintendent Rippel and the Alarm Committee members.

In March, 1947, the then Fire Chief of Rockville Centre, Frank A. Rauch, outlined the proposed "silent alarm" system to the Lion's Club of that Village.

By that time the Rockville Centre Village Board had been informed all about the carrier alarm system and there was the usual indifference, if not open skepticism, on the part of some, to what appeared to be a revolutionary gimick. The appeals of the Superintendent, and of officers of the department, for construction of an experimental installation finally got some action. The Village Board checked with some of the local service organizations which had become interested in the idea and finally referred the matter to the eleven Rockville Centre Civic Associations for investigation and recommendation.

All too often local civic groups work at cross purposes and accomplish little, but this was an exception. It was not long before tentative specifications were drawn up by the Fire Alarm Committee of the Fire Department and shortly after, over-all specifications were drawn by a Special Engineering Committee appointed by the Mayor and Village Board. Serving on this Committee were Charles P. Ketler, Commissioner of Public Utilities and Superintendent Rippel.

It should be mentioned at this stage, that a number of variations of the basic idea advanced by Superintendent Rippel and the Alarm Committee were submitted and considered. One of these contemplated an outright electronic system, using all electronic tubes instead of motor generator installation as a source of signal frequency.

The net result was that on March 8, 1948, the Line Material Company of East Stroudsburg., Penn., submitted a proposal to construct the carrier system, which was to be installed by the Littlefield-Alger Signal Company of Rockville Centre. The latter was to supply all miscellaneous installation material including wire, cable, conduit etc., while the Wired Radio Division of the Line Material Company was to manufacture the equipment, supply engineering services, check adjustments and instruct the Village personnel in operation and maintenance of the equipment. All work was specified to be done in accordance with the rules of the National Board of Fire Underwriters.

How the Silent Alarm System Operates

The silent alarm system or "fireman's call" (actually it has been given many names including that of "juke box" by some of the local vamps) transmits coded signals over the power and light feeder lines of the local electric power plant which, incidentally, is owned and operated by the Village. The system can be made to operate flashing lights and/or ring bells in the homes, places of business, or other locations of the volunteer firemen of the community.

Stripped of technicalities, this is how it functions. A transmitter is installed in the electric power plant and coupled to the electrical distribution busses to send out signals, which are transmitted over the power and light feeders, or wires, into the various homes, places of business and so forth.

In these homes or business locations, a small portable receiver can be plugged into any 115 volt electrical outlet (the standard convenience electrical outlet). This unit will translate the coded signals into strokes on a bell or into light flashes, thereby reproducing the coded fire alarm box signal as transmitted by the Fire Alarm System.

Relays in the wired radio transmitter and connections to the existing fire alarm box circuits, provide for automatic transmission without delay of the box signal as it is received at Fire Headquarters. Thus the signal from the pulled box or fire alarm telegraph transmitter is transmitted directly into the homes and other places having the receivers.

The transmitter has the required capacity to provide the necessary signal voltage to reach all parts of the power and light system and to provide for reasonable future growth and to operate the desired number of portable receiver units.

A carrier frequency of 3800 cycles was chosen as being sufficiently high to eliminate interference with wired radio systems used for the control of multiple street lights, water heaters and other current consuming equipment; yet this cycle is not high enough to cause excessive loss of signal power in passing through the various distribution transformers in stepping current down from the high voltage feeder to the 115/230 volt secondaries (voltage at which the current is taken into domestic customers' property).

Long experience with systems employing a 3800 cycle frequency have shown that in this frequency range a maximum of freedom from interference from stray signals on the lines can be had without the necessity of using excessively large signal power.

The transmitter assembly of the "silent alarm" system consists of three main parts: (1) the 3800 cycle motor-generator set, (2) the transmitter and (3) the coupling capacitor unit. In addition, a manual signaling extension box is supplied.

Built into the transmitter are the necessary coils and condensers for adjusting the impedance of the 3800 cycle generators to that of the power system.

The supervisory circuit provides for operation of flashing lights whenever the transmitter is inoperative; when the D.C. generator field supply fails; and also when incoming box alarm signals do not produce corresponding outgoing carrier signals.

A relay is included to equalize the length of all outgoing signals; this also serves to disconnect the transmitter in case the fire alarm box circuit becomes open.

The motor-generator set, which is located at the Municipal Light Plant, does not have any brushes, or commutators, or slip rings; therefore maintenance is minimized. This motor-generator gives a dependable high power

output and can easily be maintained by non-technical personnel.

The manual signaling extension box is installed near the main switchboard in the power plant and provides for manually sending box code signals at such times as the normal signal circuit between the box circuits and the transmitter should become open or otherwise inoperative. It contains two push buttons which are connected in series so that one must be held open while the other is keyed. This prevents accidental operation. The box also contains a signal light so that the operator can see the signals he is transmitting. Terminals, to which a pair of flashing lights may be connected, are in the box; and, by installing the lights above the switchboard, the operator can be notified when the supervisory circuit of the transmitter shows the inoperative condition.

Receiver Unit Is Small and Compact

The portable receiver units which are located in the homes and places of business of the volunteers, are small metal boxes measuring approximately 6" x 6" x 9". A strap handle is attached to the top of the box for easy carrying. On the front of the case is mounted the gong or single stroke bell, an "ON-OFF" switch, and an indicator light which lights up when the unit is plugged into the service outlet. A receptacle is provided in the back of the receiver so that a lamp can be used to flash the coded box number, without the ringing of the bell. The choice of either audible or visible signals makes the receiver adaptable for use in homes or places of business and locations where an audible signal would not be desirable.

The 3800 cycle wired radio signals are received by means of a simple filter, the output of which is fed to a cold cathode vacuum tube in the receiver which, in turn, operates a small relay to actuate the bell or lamp. "Cold" cathode tubes are used because they do not have any filaments which must be kept lighted at all times.

The "silent alarm" receivers consume a small amount of current and this only when a signal is actually being received. They consume no measurable power when turned off (a fraction of a watt is sufficient to operate the warning neon glow lamps).

Such are the mechanics of the "silent alarm." The fundamentals are of course the master transmitter control panel; dual motor-generator set; capacitor; manual signaling extension box and the receivers. Most of this equipment is standard construction and created no special installation problem.

Superintendent Rippel emphasizes that the "silent alarm" system operates on 3800 cycles and not the normal 60 cycles which is generally standard for domestic central station service. It is necessary to superimpose the high frequency (3800 cycles) over the 60 cycle system. This high frequency was arrived at after a careful engineering survey of the area which he says must be done for every such "silent alarm" installation. He points out that the "silent alarm" will operate on either AC or DC systems and it can be made to function either throughout an entire light and power company system (as for example on a county-wide basis), or in any given locality by simply varying the frequencies, viz: one area on 3800 cycle and another on 3400 cycle.**

Carrier current, Superintendent Rippel says, is not new, except in its application to fire alarm communications. A number of utilities over a period of years have specialized in carrier current in connection with the control of electric water heaters, ornamental street lighting and the like. In applying it to fire alarm use, the problem of coding without stray signals interfering with the code number being transmitted has been successfully overcome.

Now that sufficient experimental installations have demonstrated that the initial "bugs" in the system have been overcome, it is expected that additional receivers will be installed to provide complete alarm "coverage" within the entire Village.

A word or two more about the receivers may be in order:

There is no particular formality connected with installation of the silent alarm receivers in the residence or business place of the member of the fire department. All members are, however, required to sign a simple agreement with the Village which retains the latter's title to the receiver. The agreement contains the number of the silent alarm receiver and stipulates these clauses:

1. The Receiver is and shall remain the property of the Village of Rockville Centre.

2. In case the user (member of the department) shall cease to be a member of the fire department he promises and agrees to return the Receiver to the Rockville Centre Fire Department immediately.

3. The member will keep and use the Receiver in compliance with all rules of the fire department now existing or which may be enacted.

4. The Rockville Centre Fire Department reserves the right to repossess the Receiver at any time when in the opinion of the Chief Engineer or his representative, it shall best serve the interests of the department and/or the Village.

5. All maintenance of the Receiver shall be by the Rockville Centre Fire Department and in the event the Receiver is in need of repair or servicing, the device shall be immediately delivered to the department for attention.

When the member receives the silent alarm he gets a printed instruction sheet containing the following data:

1. This unit uses less than 2c worth of electricity per "year" if on continually.

2. Plug into any standard outlet. (This unit will only work on the lines of the Rockville Centre Municipal Plant; it will not work in surrounding communities).

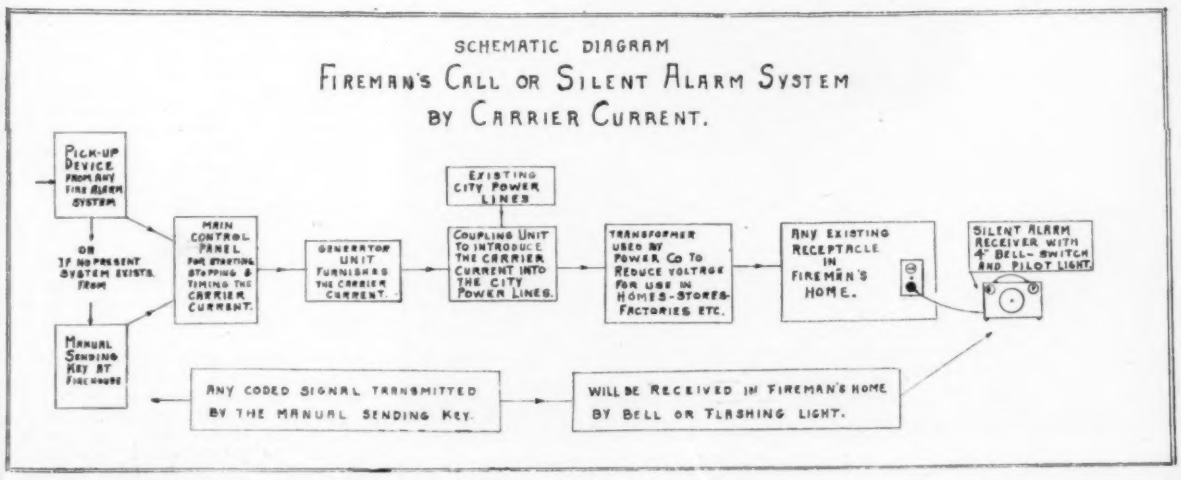
3. When "Toggle" switch is in "UP" position, Receiver is in operation position for audible (Bell) reception. Small neon light should glow when in this position.

4. When "Toggle" switch is in "DOWN" position, Receiver is in position to operate as a relay for operation of a small lamp. Lamp plug should be plugged into rear of Receiver. The neon lamp will not glow when Receiver is in Visual reception position. Do Not Use Larger Than a 60 Watt Lamp, as Excessive Currents Will Damage Contacts.

5. Do not break seals on Receiver or make any adjustments to this Receiver. If you experience any difficulties, contact the Power Plant Operator on duty (RVC 6-5800) who will in turn relay such message to the F. A. Electrician.

6. Further regulations may be inaugurated at the expiration of the trial period.

**Naturally, any carrier current system must have the approval of the utility over whose circuits it operates. Rockville Centre's commissioner of Public Utilities, Charles T. Ketler, has approved this "Silent Alarm" installation.


SCHEMATIC DIAGRAM
FIREMAN'S CALL OR SILENT ALARM SYSTEM
BY CARRIER CURRENT.
PICK-UP DEVICE FROM ANY FIRE ALARM SYSTEM
OR IF NO PRESENT SYSTEM EXISTS FROM
MANUAL SENDING KEY AT FIREHOUSE
MAIN CONTROL PANEL FOR STARTING STOPPING & TIMING THE CARRIER CURRENT.
GENERATOR UNIT FURNISHES THE CARRIER CURRENT.
EXISTING CITY POWER LINES
COUPLING UNIT TO INTRODUCE THE CARRIER CURRENT INTO THE CITY POWER LINES.
TRANSFORMER USED BY POWER CO TO REDUCE VOLTAGE FOR USE IN HOMES-STORES-FACTORIES ETC.
ANY EXISTING RECEPTACLE IN FIREMAN'S HOME.
SILENT ALARM RECEIVER WITH 4" BELL- SWITCH AND PILOT LIGHT.
ANY CODED SIGNAL TRANSMITTED BY THE MANUAL SENDING KEY.
WILL BE RECEIVED IN FIREMAN'S HOME BY BELL OR FLASHING LIGHT.

Fire Departments Spark Fire Prevention Week

A STAFF REPORT

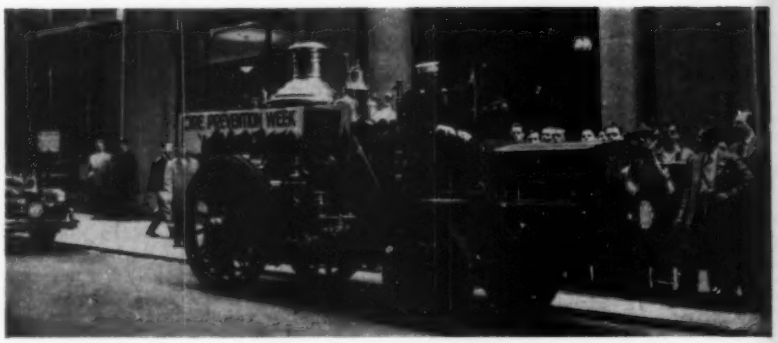
FIRE Prevention Week in 1950 took on added importance as fire losses continued high and as the nation speeded up its armament program. October was a month of outstanding fire prevention campaigns throughout the country, public attention being focussed on this important subject by local drives in nearly 10,000 communities and at the U. S. armed forces bases in various parts of the world.

In nearly every city, town and village throughout the nation, according to the National Board of Fire Underwriters, local fire departments, civic clubs, public and private schools, churches, press and radio and television joined to help prevent fires. Governors of 35 states issued proclamations admonishing citizens to join the fire prevention movement and safeguard homes and jobs. As usual, fire forces sparkplugged energetic drives which won public acclaim.

NEW YORK CITY ACTIVE

This year the New York Fire Department accelerated the pace it set in 1949 when it received recognition in the national F. P. Week contest. This effort, which came at a time when the city was in the throes of a political campaign, nevertheless won much attention.

Again the famous Museum of the department served to provide good promotional material for the Fire Prevention Week drive. Conspicuous in the heavily populated areas of the city was the chugging old Christie tractor-drawn steamer, which with Honorary Captain Clarence Meek (historian of the department) and Fireman Walter Beatty, who "grooms" the museum's priceless relics for posterity, gave the citizens a thrill.



Old Tractor-Drawn Trailer Displayed in New York during Fire Prevention Week.

The entire vast personnel of the department were called upon to participate in F. P. Week observances. All fire houses and the Fire College (located in the same building with the Museum, and under tutelage of Deputy Chief of Staff and Operations E. G. Conway) were kept open to the public from 1 P.M. to 6 P.M. from Oct. 9 to 14 except on Sunday.

Building inspectors in the department exerted every means at their disposal to arouse the public to the dangers of fire. Deputy Chief of Staff and Operations David Kidney,commanding the Division of Combustibles and Fire Prevention, recalled that 120 persons were killed in New York in 1949, with property losses aggregating $20,249,930.

New York made fullest use of its scores of legitimate and motion picture theatres and its many places of public assembly. New Yorkers are getting accustomed to the placards in all restaurants and other places where people gather, indicating the number of occupants beyond which it is unsafe to congregate.

The then Acting Mayor Vincent R. Impellitteri requested all other city departments to cooperate with the fire department in promoting the occasion and he officially launched the week's campaign from the steps of City Hall with Commissioner Frank J. Quayle when medals were presented to public and parochial school children adjudged winners in slogan and essay-writing contests sponsored by the department.

The department issued a list of "do's and don'ts" for fire safety and these were broadcast over the radio and carried in the papers by Commissioners, and others during the week.

WEST POINT HAS MOBILE EXHIBIT

The West Point (N. Y.) Fire Department, according to Ernest G. Parsons, Assistant Chief, made good use of a mobile display unit to register its Fire Prevention Week message at the famous military post. With this mobile unit it was possible to put on demonstrations and give instructions in the use of all types of fire extinguishers without the usual tine lost in setting up props, according to Chief Parsons.

In addition, the department had large hand painted "Fire Prevention" signs mounted on the five pieces of fire apparatus. F. P. Week posters were also displayed on the bulletin boards on various buildings on the Post.

On three different days the fire department had a parade of fire apparatus around the Post, ending with a drill by the fire fighters at the Post School. These drills were witnessed by the school children and Post personnel.

The school children also took part in the observances by writing compositions on fire prevention. Winners were given a ride around the Post on the fire apparatus under the watchful eyes of the fire fighters, to prevent any accidents.

Fire Prevention "Jeep" Used in Parade at West Point.

Fire Prevention Parade at Camp Gordon.

In addition, fire prevention films were shown at the Post Theatre, as a part of each night's program. Films were also shown at the Post School.

The slogan *"Make Every Week Fire Prevention Week"* was thoroughly stressed throughout the duration of the entire program.

PARADE AND PANOPLY AT CAMP GORDON, GEORGIA

One Army Post which entered enthusiastically into Fire Prevention Week observances was Camp Gordon, Georgia. The Camp Gordon Fire Department, under its Fire Chief Henry B. Wells, put on a parade that made Post fire prevention history.

Led by the 336th Army band, playing martial music, came a procession of floats, fire apparatus and military and private cars, which toured the far-flung Post to mark Fire Prevention Week. Prominent in the motorcade was Augusta's Fire Chief D. L. Cliatt, guest of Chief Wells, who rode in his own red car. Augusta, which is near Camp Gordon, cooperates with the latter in every possible way.

Following the band came a float with a casket in the center, and a grieving widow and children in the rear. Over the casket a large sign proclaimed: *"We don't want this to happen to you."*

Chief Well's fire sedan led the fire-fighting equipment of the Post, which included three pumpers of 750, 500 and 300 GPM capacity.

SUBURBAN DALLAS PARADE WINS GOLD TROPHY

For the third time, the Oak Cliff Chamber of Commerce (suburban Dallas) and the Dallas Fire Prevention Council and Dallas Fire Department cooperated to sponsor a gigantic Fire Prevention Week parade which won honors, giving it final possession of a beautiful gold trophy.

The parade, which was a mile in length, and witnessed by approximately 100,000 persons, was held in suburban Dallas in competition with Southeast Dallas and downtown Dallas parades. The prize was awarded the Oak Cliff combination on three counts: "Color," "Miss Flame" and "Fire Prevention Features," according to L. F. Holland, who was Parade Marshal.

There were four divisions in the parade, the first embracing police escort, prominent officials, Fire Chief C. N. Penn of Dallas, and nine units of the Dallas Fire Department. Following these vehicles came the float bearing "Miss Flame," the chosen beauty selected to bear that title for the year.

Division B was made up of fire prevention features including floats depicting the hazards of fire, fire apparatus old and new, historic floats and vehicles. Included in this division was the stage coach used by Dallas Shriners in the Chicago parade of July, 1949.

Glamour girls spotlighted Division C, including the Fire Department 'Queens' and the chosen beauties representing Service Clubs, schools, etc. All cars carrying these and other notables in Divisions C and D were latest model open convertibles with tops down, and the "Queens" perched on the folded tops.

Division D was the "Parade of Nations" and included prominent horsemen and personages from, or representing over 20 foreign nations and U. S. Possessions. Many of these countries sent their representatives to participate in the affair, for example, Braniff Airlines flew two girls from Bolivia and two from Peru for the occasion.

NEW YORK STATE HOTELS PARTICIPATE

The New York State Hotel Association which, under the guidance of former Assistant Chief of the New York Fire Department, John J. McCarthy, made outstanding strides in preventing and controlling fires in the state's hotels, enrolled its 680 member hostelries in Fire Prevention Week under the slogan: *"Don't Let Fire Lick You!"*

Members also featured the idea that every week is Fire Prevention Week in adopting the idea that eternal vigilance is the price of hotel safety.

Chief McCarthy, whose fire safety bulletin to the Association's members contained a wealth of suggestions and ideas for promoting Fire Prevention Week and fire safety, urged lobby displays of posters; stickers on hotel bills, correspondence, pay envelopes, etc.; slogans carried on dining room menus (with eight suggested catchy slogans); cooperation between local fire chief and hotel employees, with visits to the hotel by the former; use of motion pictures; book matches bearing the printed injunction: *"SAVE A LIFE—Please Do Not Smoke in Bed!"* and the placing of literature in each hotel room.

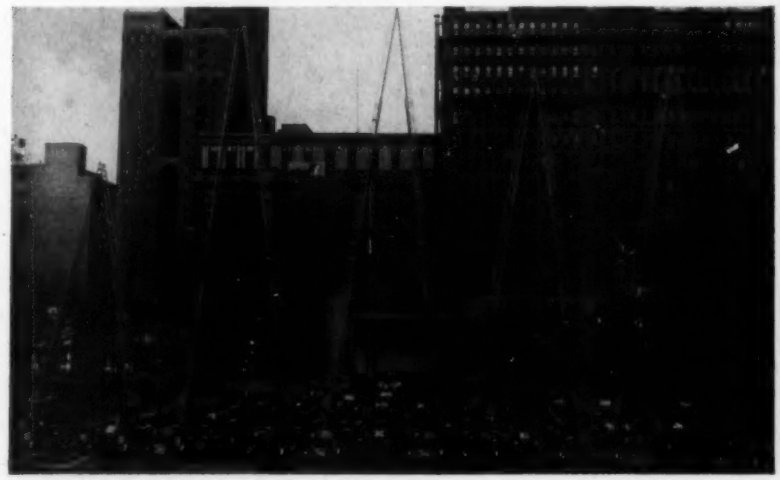
PHILADELPHIA STAGES STRIKING APPARATUS DISPLAY

Highlighting the program which the City of Philadelphia put on this year, was the exhibition of the latest, most modern fire apparatus acquired by the municipality. This impressive display, which included ten all-metal aerial ladders and the newest pumpers and other equipment, was staged in City Hall Park prior to the big Fire Prevention Week parade on Friday, Oct. 13. The apparatus, which represented an appropriation of $600,000 made for 1950 by the city, included: 4-100 ft. American LaFrance aerial ladders; 4-85 ft. Peter Pirsch aerial ladders, and 5-65 ft. American La France ladders. There were six Autocar pumpers, all 750 GPM; 8 Ford combination cars with Hale booster pumps; 1 floodlight truck built by Ward LaFrance, and two pipe line cars (high pressure) with Ford chassis and motor, and Ward LaFrance bodies.

Fire Chief John C. Cost directed F. P. Week observances, with Mayor Bernard Samuel and Director of Public Safety Samuel H. Rosenberg and other city officials lending their official blessings.

DENVER DEPARTMENT USES STORE WINDOWS ADVANTAGEOUSLY

The Denver Fire Department, under James L. Cain, Chief, Bureau of Fire Prevention and Allie A. Feldman, Fire Chief, made fullest use of show windows of local merchants' stores to promote Fire Prevention Week to passersby. Six of the displays spon-



Display of New Fire Apparatus at Philadelphia during Fire Prevention Week.

sored by the department in downtown Denver were considered outstanding.

Summarized without embellishment by Chief Cain, the department engaged in these activities:

Inspections during the Week: Dwellings, 1,200; stores, 45; factories, 16; public buildings, 4.

School activities: addresses in schools, 108; poster contest in 20 schools; 29 playlets given in class rooms; 108 school fire drills.

Boy and Girl Scout activities: 20 motion picture showings; 700 pamphlets distributed; 79 Boy Scouts completed courses in firemanship.

Business organizations: addresses to civic groups, 11; window displays, downtown, 6; demonstrations at schools, 29.

Publicity, etc.: articles in two daily and 30 weekly publications; 3,000 posters placarded; 60 radio spot announcements and four speeches; 47 motion picture showings in clubs, etc.; 3,000 pamphlets prepared and distributed in schools, etc.

During the Week there were 51 fires; city fire losses were $43,069.00.

Denver conducts all-year round fire prevention efforts.

In addition, the department held open house in its 22 fire stations, and carried on numerous other activities.

One of Six Similar Window Displays in Downtown Denver Stores during Fire Prevention Week.

STOCKTON NAVY SUPPLY ANNEX HOST TO SCHOOL CHILDREN

An outstanding feature of Fire Prevention Week's celebration in Stockton, Calif., was the visit of 700 of the city's school children to the Fire Department of the Stockton Naval Supply Annex, Stockton, Calif.

The youngsters, aided by posters and placards done by pupils themselves, received instructions on such details as how to transmit fire alarms, and how to help prevent different kinds of fire. They saw and were thrilled by demonstrations by firemen who donned gas masks, slid the poles and explained fire fighting equipment.

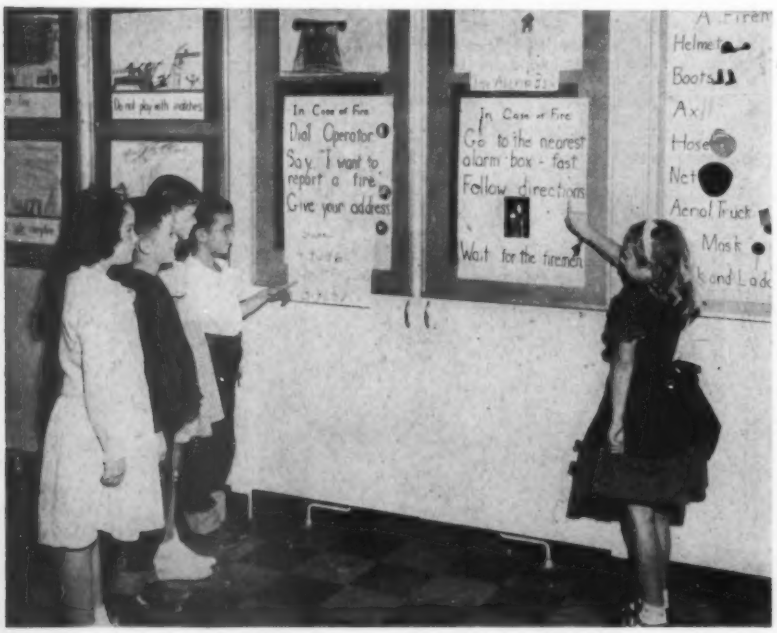
American Association of Firemen Formed

Temporary organization of a national association of firemen made last May was made permanent by adoption of the name American Association of Firemen and a Constitution and By-laws, on October 28 and 29 at Pittsburgh, Pa., and election of officers as follows: President, James Core, Jr., Parksley, Va.; Secretary, W. Dale Hogg, Lyndhurst, Ohio; Treasurer, J. Harper Jones, Smyrna, Del.; Parliamentarian, Wm. Kirk, Richardson Park, Del.; Executive Committee, Fred Brown, Wilmington, Del., Wm. H. Cheesman, Dayton, Ohio, and Mr. Reninger, Charlestown, W. Va.

The four Vice-Presidents will be the presidents of the four district zones, viz., Eastern, Central, Mountain and Pacific (the Federal time zones) when same shall have been elected.

Being strictly National in its character and planning, it will not interfere with any other organized firemen's groups. The annual membership fee will be $5.00. Volunteer, paid and industrial departments and affiliated groups are eligible to join the organization.

Applications should be sent to W. Dale Hogg, Secretary, 1431 Parkview Drive, Lyndhurst, Ohio.



Fire Prevention Exhibit Staged by Youngsters at Stockton Naval Supply Annex.

Shakeup in New York Fire Officials

The election of Vincent R. Impellitteri as Mayor of the City of New York had repercussions throughout the top ranking officials of the city's fire department.

Fire Commissioner Frank J. Quayle resigned his $15,000 post effective November 30, soon after the election, and was followed by Harvey Rosen, former secretary of the department who was provisionally appointed to a $7,850-a-year transit position last spring. Reports have been published of further changes in the administrative and fire fighting branches of the department to take place after the Mayor-elect returns from a post-election vacation.

Commissioner Quayle, 57, a former Democratic District leader of Brooklyn, was metropolitan sales manager for Remington Rand, Inc., before becoming Kings County Sheriff in 1944. He had been Brooklyn Postmaster for five years when former Mayor O'Dwyer made him Fire Commissioner. The retiring Commissioner has not announced his future plans.

Deputy Fire Commissioner, James Moran, was shifted to another, and more permanent city post before Mayor O'Dwyer resigned. He is now Water Commissioner.

Fire Service Ladders and Their Use—Part VIII

Technique of Testing Fire Department Ladders (Aerial) Continued

By ROI B. WOOLLEY

Editor's Note: This, the eighth in the series of chapters dealing with fire department ladders, ladder operations, evolutions and preventive maintenance, is a continuation of the October installment which was devoted to the testing of steel aerial ladders and which followed the chapter on the testing of wood aerial ladders in the September number.

Previous test technique for aerial ladders was based primarily upon information and recommendations furnished by Mr. Hubert Walker, Manager, Motor Fire Apparatus Sales Engineering, American LaFrance-Foamite Corporation, Elmira, N. Y., and in general applied to that company's wood and metal ladders.

Since publication of these earlier two chapters on the testing of metal and wood aerial ladders, the editors have received the recommended procedure advocated by another leading manufacturer of aerial ladders, the Seagrave Corporation, Columbus, Ohio, and are pleased to devote this installment in the series to those recommendations, for which we are indebted to Mr. H. M. Havens, Vice President, Engineering, of the Company.

Readers who compare the following test procedure which Seagrave Corporation advocates for its all-steel welded aerial ladder will note there is little variation from the method employed by American LaFrance-Foamite Corporation. Mr. Havens presents some additional load data and other factors, however, which will be of interest to our readers, particularly those who operate apparatus made by this corporation.

At a later date it is hoped to publish the test methods adopted by still other manufacturers of aerial ladders.

As has been explained, publication of these chapters on the testing of aerial ladders has been advanced ahead of that covering the testing of wall, or ground ladders, for the benefit of fire chiefs who seek to immediately check up on their aerial ladders with a view to determining their safety standards, and of replacing obsolete and worn out units.

As was pointed out in a previous installment of this series (November, 1950 issue), because of their more rugged construction and greater imperviousness to deterioration, age or usage than the wood types of ladders, the need to check and re-check the metal ladders is not considered as imperative as it is in the case of the wood types. Nevertheless, it should be stressed that this is no sound reason for not subjecting the metal aerial ladder to occasional over-all test especially if the periodic inspections, which should be routine with every progressive fire department, indicate the possibility of something being not quite up to standard.

The policy of keeping records of all tests (date, weather conditions, time of day, location, personnel in charge, etc.) is again recommended, as is the practice of photographing the tests, step-by-step. Since suggesting this procedure, the author has heard from a number of fire chiefs who have used the photographic evidence of the deterioration of some of their aerial ladders to good advantage. The photographic evidence brought the test operations and results right into the offices of the commissioners and others interested in the details, but who were unable to witness the tests themselves.

In one case, of five wood aerial ladders tested, three proved questionable for further use. Two were immediately placed out of active service and instructions given to operate the other only under most carefully controlled conditions.

There's Always the Danger of Overloading Aerial Ladders During the Excitement of Working on Multi-Storied Fires

The Modern Metal Aerial Ladder Must Serve as a Water Tower Also

When the conditions of these three aerial ladders were laid before the fire commissioners and other city authorities, orders for two new ladders were quickly forthcoming.

Service Requirements Recommended as the Basis for Testing Ladders

Acording to Mr. M. H. Havens, for service testing of any ladder equipment, the tests should be such as to impose stresses representative of those incurred in actual service.

The magnitude of the stresses should equal the maximum that would be expected in service plus a safety factor of about 50 per cent. By using *service requirements* as a basis for testing, the variations in strength of ladders produced by various manufacturers is eliminated from consideration and the test results determine whether or not the equipment is safe for use under practical service conditions.

The normal usage of modern aerial ladders involves loading represented by two general conditions, according to Mr. Havens. The first of which is as a rescue ladder supported at the outer end. They would usually be set at about 70 degrees from horizontal and occasionally fully extended. The maximum possible traffic over the ladder could not exceed the number of men that would fill the ladder if spaced five rungs or 70 inches (14 in. run spacing) apart, starting approximately six feet from the ladder trunnion.

The average weight of men is assumed as 175 lbs. This is equal to the following loading:

65 ft. ladder	10 men	1750 lbs.
75 ft. ladder	12 men	2100 lbs.
85 ft. ladder	14 men	2450 lbs.
100 ft. ladder	16 men	2800 lbs.

Metal Aerial Ladders and Proper Illumination of Fire Grounds Increase Safety at Operations on Night Fires

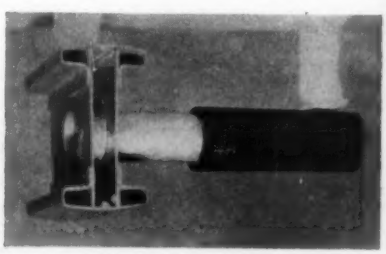
This loading, however, is far beyond that which woud be practical in service, and it would seem safe to assume that the maximum service load would not exceed the following with average man weight of 175 lbs.:

65 ft. ladder	6 men	1050 lbs.
75 ft. ladder	7 men	1225 lbs.
85 ft. ladder	8 men	1400 lbs.
100 ft. ladder	9 men	1575 lbs.

For a practical test, Mr. Havens suggests that a load of 175 lbs. be attached to the center of every fifth rung of the ladder starting at approximately the seventh rung, or about 8 ft. 6 in. from the trunnion. This results in the following loading:

65 ft. ladder	9 weights	1575 lbs.
75 ft. ladder	11 weights	1925 lbs.
85 ft. ladder	13 weights	2275 lbs.
100 ft. ladder	15 weights	2625 lbs.

Rescue Operations Frequently Result in Uneven Loading of Aerial Ladders. Sometimes Ladders Are Subjected to Serious Overloading. Shown in the Picture Are Employees of an Office Building in St. Louis, Mo., Being Removed to Safety When Fire Occurred in the Structure.



Beam and Run Construction of Seagrave Steel Ladder

Since these loadings represent from 50 to 60 percent beyond normal expected loads he explains, they should be adequate for a test without danger of overstressing a properly designed ladder.

If the ladder must, of necessity, be tested at a lower angle than the normal 70 degrees from the horizontal, the weights should be decreased approximately as follows to maintain equivalent stresses:

At 60 degrees weights should be 120 lbs. each
At 50 degrees weights should be 95 lbs. each
At 40 degrees weights should be 80 lbs. each
At 30 degrees weights should be 70 lbs. each
At 20 degrees weights should be 65 lbs. each

When Used as Water Tower

Mr. Havens makes the interesting point that the second condition of load-

(*Continued on page* 1018)

OLD CHICAGO CHURCH WRECKED BY QUARTER-MILLION DOLLAR FIRE

Two Water Towers Control Flames At 5-11 and 1 Special Alarm Blaze

By Paul C. Ditzel*

A 5-11 and one special alarm fire in Chicago, Illinois, caused $250,000 damage to St. Alphonsus Catholic Church at 1429 Wellington Avenue, on Chicago's North Side.

The fire, which brought two of Chicago's three water towers into action, injured four firemen and one Chicago Fire Insurance patrolman.

The church was 65 years old and constructed of stone and brick. Its 240-foot-high front main steeple was a landmark of the North Side area. Fire Commissioner Michael J. Corrigan believes the fire originated on the roof between the steeple and the eaves.

Before the fire was brought under control, in one hour and 55 minutes, flames slashed across the roof and sent a smaller 180-foot-high steeple toppling into the church. The collapse of this rear steeple spread the blaze over most of the roof and into the interior of the church. The main section of the roof collapsed during the fire. Pews in the upper church were charred and the lower church was flooded from the many streams played into the church from all sides.

Ironically, more than $80,000 had been spent during the past two years for a new altar and other interior decorations. At the time of the fire, metal scaffolding surrounded the main steeple as workmen from a nearby sheet metal company were applying a new copper roof to the steeple. They were on their lunch hour when the fire was discovered.

First notification of fire was a telephone call at 12:33 p.m., October 23, to the Downtown Fire Alarm office in the City Hall. Fire alarm dispatchers relayed the alarm to Engine 55 via the fire alarm loudspeaker system. Hook and Ladder 21, under command of Lt. W. Cotter, followed the pumper. Squad 10 and Acting 13th Battalion Chief Herman Hansen also responded on this initial "still" alarm. There was no delay in reporting the fire.

According to one report, the fire was first seen by a citizen who notified two Chicago Traffic Division policemen who were parked in their accident investigation coupe beside the church. They called the Chicago Police Department's Central Complaint Room via their two-way radio and reported a fire in the steeple of the church. Fire alarm office records, however, show the alarm was first received by a telephone call from a citizen.

Twelve minutes after the still alarm was transmitted, Chief Hansen ordered his driver to pull fire alarm box 8138 at Wellington and Southport Avenues, practically in front of the church. Three additional pumpers, a hook and ladder, Division Marshal 3, and Battalion Chief 3 responded on the box alarm.

Meanwhile, Engine 55, under command of Lt. H. Tolaga, had taken a 2½-inch line up Truck 21's eighty-five-foot aerial ladder to the roof. Squad 10 took a second 2½-inch line off Engine 55 and went inside the building up to the loft.

At 12:50, five minutes after the box alarm was pulled, John P. Ryan, Division Marshal Three, ordered a 2-11 alarm. (In Chicago fire alarm procedure, the "11" signal denotes an extra alarm.) Four more pumpers, two ladders, a squad, High Pressure Wagon 2, Water Tower 2, Fire Ambulance 6, Light Wagon 2, and the Chief of the 4th Battalion responded.

A 3-11 alarm was ordered by Division Marshal Ryan one minute after the 2-11 at 12:51; followed by a 4-11 alarm two minutes later at 12:53. The 5-11 alarm was sounded at 1:18 and at 1:35 pm., five additional pumpers were called on a special alarm. Chicago fire department response cards provide for fifth alarm assignments only.

The 5-11 and one special alarm brought a total of 38 engines, five hook and ladders, three squads, three high pressure wagons, two water towers, one ambulance, two light wagons, four batallion chiefs, a division marshal, Commissioner Michael J. Corrigan and Chief Fire Marshal Anthony J. Mullaney.

In addition, 12 engine companies, three hook and ladders, and two batallion chiefs changed quarters during the nearly two hour battle before the fire was struck out.

Third Battalion Chief Frank Thielman, who responded on the box alarm, was placed in charge of the rear of the fire building. Walter Moroney, acting Fourth Battalion Chief, who responded on the 2-11 alarm, took charge of the South side of the church. Chief James Gegan of the 20th battalion took charge of the North side of the burning building.

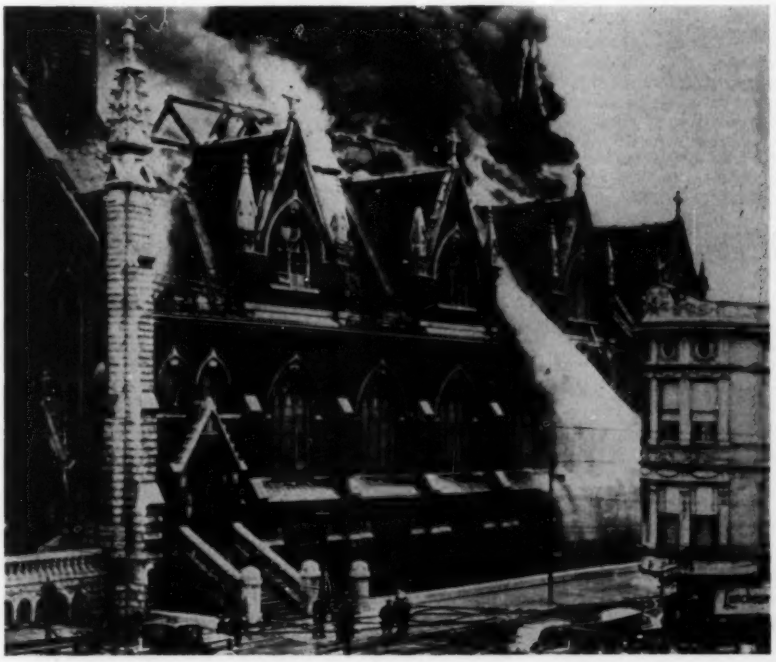
Three 2½-inch lines, single and siamese, were taken off Engine 55. The pumper worked with a 1¼-inch pipe. Engine pressure was 150 pounds and Chicago hydrant pressure was 30 pounds. The engine took a position 200 feet from the fire and worked 10 hours. One line from Engine 55 went into High Pressure Wagon Two's turret gun.

Truck 21, the still alarm ladder company, worked eight hours and 58 minutes. The truck's crew raised the 35 and 50-foot ladders and worked in the organ loft of the church in addition to performing general truck duty.

Squad 10, under command of Lt. R. Byrne, was spotted in front of the church and its turret gun was put into action. The squad put in eight hours and 50 minutes at the fire.

High Pressure Wagon Two, under command of Lt. W. Carlson, laid 100 feet of 2½-inch hose and 1200 feet of 3½-inch hose. Five engine companies pumped into Water Tower Two's aerial mast which located itself in front of the church.

High Pressure Wagon 7 laid 100 feet of 2½-inch hose and 1100 feet of 3½-inch hose. Three engine companies, responding on the later alarms, pumped into Water Tower Two's aerial mast as



St. Alphonsus Church, Chicago, Shortly After First Fire Companies Arrived

*Note: The author is indebted to Fire Commissioner Michael J. Corrigan, Chief Fire Marshal Anthony J. Mullaney, and Fireman Willard Brandt, who assisted in gathering material for this and other articles written exclusively for FIRE ENGINEERING.

it operated to the North and West of the fire.

As flames shot 60 to 70 feet above the roof and sent billowing smoke 500 feet above the church, the police department put their Emergency Plan No. 5 into effect. This plan calls out a predetermined number of squad cars and squadrols (patrol wagons) to handle traffic and crowds. This was the first time Plan 5 had been put into effect since the collision of a gasoline truck and a Chicago Transit Authority trolley on Chicago's southside, which resulted in the death of 33 persons.

Exposures at the fire provided a potential conflagration hazard. To the West of the Church was the St. Alphonsus parochial school. Nuns led 1400 school children to safety as firemen fought the church fire from the roof of the school. On the South of the fire building, located on the southeast corner of Wellington and Lincoln, was the rectory in which 11 priests were at lunch when the fire started.

The Rev. Charles Heing, assistant pastor, fought his way through heavy smoke to remove the Holy Sacrament from the upstairs church altar. Another priest removed the Holy Sacrament from the lower altar. The church organ was ruined.

Four firemen and the insurance patrol member were injured from falling debris in the organ loft of the church. Three of the injured firemen were attached to the still alarm companies.

Suffering from head and back injuries, the five men were removed to Alexian Brothers Hospital by Fire Ambulance 6 under command of Fireman P. Costany. (See September, 1950, FIRE ENGINEERING Magazine, page 470, for the story of Chicago's fire department ambulance system.)

Fire insurance patrolmen placed a tarpaulin over a $24,000 marble altar inside the church. Marble for the altar was imported from Naples two years ago. Because of the insurance patrol's work, the altar was undamaged.

The church, which was unsprinklered, was valued at one million dollars. Damage to the church amounted to $175,000. Insurance covered the church building to the extent of $250,000. Contents of the church were valued at $500,000. Fire damage amounted to $75,000. It was not known whether the contents were insured.

Fire department records show the building was 85 feet wide and 210 feet long. Fire officials were unable to determine the cause of the fire. There was a Northeast wind blowing which sent dense black smoke into the faces of firemen fighting the fire from the parochial school facing the fire building on the West. Temperature was mild and the weather was clear.

St. Alphonsus Church was one of the largest churches in Chicago. Founded in 1882, the church's Athenaeum Hall was damaged by a $75,000 fire on November 23, 1939. Another fire wrecked the church in 1906.

Children and Matches

Town Marshal Clare Skelton of Sullivan, Ind., blamed children playing with matches for a decidedly inconvenient fire in Farmersburg. The fire burned out wires leading to the town's telephone exchange—including the ones that activate the fire siren.

DELAYED DISCOVERY RESULTS IN HEAVY LOSS AT WAREHOUSE FIRE

Building Completely Involved When First Apparatus Arrived

By Earl Nolan

A FOUR-STORY brick warehouse, approximately half a block square, owned by the Davis-Cleaver Produce company of Quincy, Ill., was destroyed by a three-alarm fire early in the morning of Oct. 28. Loss of the building and contents is estimated at $225,000 or more.

The fire of undetermined origin gave the fire department one of its worst workouts in years and resulted in the injury to two firemen and near-injury to three others, including Chief George Simon.

The structure contained 77,000 square feet of floor space and was filled to capacity with packaging supplies used by the Davis-Cleaver company at its processing plant four blocks away. The contents included 40,000 paper cartons used in shipping frozen turkeys, tons of poultry feed, 10,000 metal cans used in processing frozen eggs and tons of other materials used in shipping poultry, butter, frozen eggs and other products.

The fire was discovered by Irving Wheeler, a janitor at the Adams county court house, who was on his way to work. Smoke was pouring from every window and fire was raging in the center of the building. He transmitted an alarm at 5:11 a.m.

Chief Simon sounded, by radio, a second and third alarms, bringing additional apparatus, the off-shift men and the Tri-Township crew and apparatus. The latter company answers alarms in adjacent townships to Quincy and major alarms in the city. Its men are paid out of taxes from the townships. The crew has a new 500-gallon pumper.

The building was entirely involved when first alarm equipment arrived. Five minutes after the first lines were directed into the roaring flames, the roof collapsed and a section of the south wall caved in. Ten minutes later a section of the east wall fell in, forcing three crews to flee for their lives. One line was lost under the tons of brick.

The building had been used for years as a show case factory. Upper floors were covered with an inch thickness of varnish, paint and veneer and this combination made more fuel for the flames. There were frequent small explosions caused by barrels containing inflammable liquids exploding.

A stiff southwest wind blew off the Mississippi river, a block away, and flaming pieces of cartons were carried for miles. Roofs of three business places four blocks away were ignited, but the fires were quickly extinguished.

Within 10 minutes after all-alarm equipment reached the scene, the entire structure was a flaming inferno. The heat was so intense that some crews could not get close to the flames. Chief Simon's department car, parked a quarter of a block away, had to be moved. The paint was scorched and the windshield was cracked by the heat.

By 9:30 the building had been consumed but flames burned fiercely in the debris under which were buried many tons of processing supplies. Three streams were kept on the ruins continuously through Oct. 30.

Fourteen lines, including four turret nozzle streams, were used in battling the spectacular fire. Four 1,000 gallon pumpers, two of 750 gallons capacity, one of 500 gallons, one 100-foot aerial, a rescue squad and the Tri-Township crew's pumper were used.

Fireman Ted McCaughey, a member of the aerial ladder crew, was on the aerial directing a line down into the fire

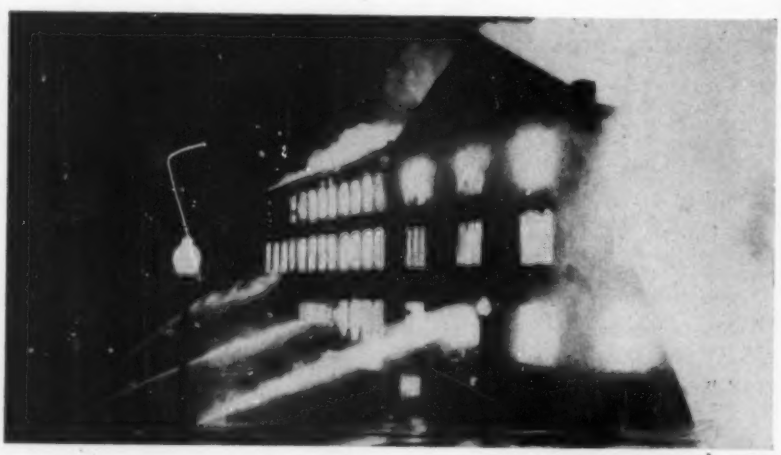


Photo Courtesy Quincy "Herald Whig"

This Is What the Four-Story Brick Warehouse of the Davis-Cleaver Company Looked Like Five Minutes After First-Alarm Equipment Arrived. Shortly After the Picture Was Taken, the Roof Collapsed and a Section of the South Wall, Shown Here, Caved In

Photo Courtesy Quincy "Herald Whig"

Ten Minutes After the South Wall Section and Roof Fell, a Portion of the East Wall, Shown Here, Crashed, Forcing Three Crews to Flee to Safety. The Entire Structure Is Involved. Bright Flame (Circled at Left) Is from a Broken Gas Main

which had then spread into the large dormer section of the roof of the Michelmann Steel Construction company, immediately to the north of the warehouse. A sudden shift in the wind blew flames across the street and McCaughey was enveloped in them. Fellow firemen below on hand lines quickly threw a spray on him as he came down, his clothing smoking. McCaughey suffered first and second degree burns on his arms and back and was hospitalized.

Henry Bower, driver of Engine company 6, sustained a deep gash on his left leg when a piece of flying metal struck it. He received hospital treatment and later returned to quarters.

Chief Simon and Pipeman John Feld and Sylvester Keck were moving a turret when the pump pressure was increased. The turret shot 15 feet in the air, swung there crazily for a few moments, then slammed to the ground. Feld flattend himself on the pavement to avoid being hit, but the nozzle, which was demolished, struck Chief Simon on his right hip.

The building was located on the northwest corner of Second and Maine, two blocks west of the west of the downtown shopping district and on the north side of the east approach to the Quincy Memorial bridge, which spans the Mississippi to Missouri.

Traffic was halted on the mile and a half long structure four hours, causing terrific traffic jams at the Quincy end and at Taylor, Mo., seven miles from the west end of the bridge. Traffic was opened at 9:30, but halted three times for hours while firemen pulled down the fire-shattered south walls which threatened to topple into Maine street.

Fire department officers and company officials could not account for the fire's origin. There was no heat in the building and the electricity was turned off every night.

Records at the water works station showed that 2,542,000 gallons of water were used in fighting the fire.

Half Million Dollar Loss in Candy Factory Blaze

Saturday, September 9, 1950, will long be remembered in Midland Park, New Jersey. In the Goelitz Confectionery Company plant on Godwin Avenue, employees were working overtime on holiday orders. They weren't scheduled to stop work until 8:00 P.M. Shortly after 4:30 P.M., Frank Smith, an employee, was at work in the waxing room at the rear of the first floor. Suddenly a hose containing alcohol and paraffine broke. The solution poured out of the break and flashed as it reached an open gas flame. So a typical Saturday afternoon was on its way to becoming a part of the history of Midland Park, New Jersey.

The Goelitz Company is a candy manufacturer whose principle product is candied corn, usually sold in bulk to retail chains. The firm has another plant in North Chicago, Illinois. The building occupied by the concern was originally constructed as a silk weaving mill in 1888, and was known as the Schofield Mill. Two additions were made since the Goelitz Company took over the plant in 1946. One was constructed in 1948, and the other was completed only two months ago. The entire structure was two stories high, 200 feet long and 100 to 150 feet wide. Most of the construction was of the ordinary mill type with brick walls, plank on timber flooring and wood joists and beams.

Windows were ordinary glass in metal frames. In the new addition, walls were cinder block covered with stucco on the outside, and constructed in part of glass brick and contained no windows. The new section was constructed with steel girders and wooden floors. A large part of the wood flooring was covered with sheet metal. There were no effective fire walls, cut offs, or stops in the building, and window between the old and new sections were not covered or bricked up. In addition, the walls and floors contained numerous unprotected openings which helped spread the fire. The plant was not sprinklered nor did it contain a standpipe system.

The exact time of the start of the fire had not been determined at the writing. The fire department received a telephone call at 4:50 P.M., stating that there was a fire in the Goelitz plant. When firemen arrived a few minutes later smoke, flames, and employees were all pouring out of the building. The fire was burning on the first floor of the new addition, feeding on alcohol, paraffine, and sugar. It spread rapidly to the first floor of the old section where a large quantity of paper and cardboard boxes were stored. From here the fire spread through vertical openings to the second floor, and in a very short time the entire plant was fully involved.

During the early stages of the fire, three explosions occurred in drums of stored alcohol and wax, but it is doubtful whether they had any material effect on the final outcome of the blaze.

The Midland Park Fire Department responded to the initial alarm with a 700 gpm pumper and a hose wagon. Firemen laid three 2½-inch lines in an effort to hold the fire in check until out-of-town help arrived. At 5:01 P.M., Chief John Pitman Jr., of Midland Park, requested aid from the Ridgewood and Wycoff Fire Departments. At 5:03 P.M. the Waldwick Fire Department was called in. Response of outside departments consisted of the following apparatus:

Ridgewood:	1000 gpm pumper
	750 gpm pumper
Wycoff:	750 gpm pumper
	two 500 gpm pumpers
	75 foot aerial truck
Waldwick:	1000 gpm pumper
	emergency truck

Hawthorne, Haledon, Ramsey, and Hohokus sent men only. At the height of the fire, 14 streams from 12 hand lines, a ladder pipe, and deluge set were being operated on the fire. There was an ample water supply from several hy-

Rear of Goelitz Plant After the Fire

drants nearby, supplied by eight inch mains. The fire was brought under control in a little over an hour. However twenty-four hours after the start of the fire, Midland Park firemen were still operating two lines wetting down the ruins.

The Goelitz firm's loss including machinery, stock and the building will probably amount to over half a million dollars. It was reported that the loss included two candy making machines worth $350,000, and at least 14 tons of candy.

RICHARD M. ADELMAN.

I. A. F. C. Offers Publications

Because of the recent heavy demand for study material by fire department personnel preparing for promotional examinations, the International Association of Fire Chiefs, 22 East 38th Street, New York 16, N. Y., has announced the following reduced prices for its various publications, as follows: Practical Training for Firemen, $1.00; Questions and Answers for Fire Departments, 35 cents; The Fireman and Electrical Equipment, 35 cents; Fire Department Pumps, Pumping Equipment and Pumping, $1.50; Volume I, N. B. F. U. Bulletins (1-72), $1.00; Volume II, N. B. F. U. Bulletins (73-206), $1.00; Volume III, N. B. F. U. Bulletins (207-288), $1.00.

The above offer will hold good only until January 30, 1951.

Greenwich Firemen Rewarded

One paid fireman, and three members of the Town of Greenwich Fire Department, Greenwich, Conn., were awarded "Outstanding Firemen" certificates and saving bonds Oct. 12, 1950, at the third annual Kiwanis Club luncheon honoring firemen, held in the Pickwick Arms Hotel, Greenwich.

The idea of rewarding outstanding members of both the paid and volunteer fire departments of the Town of Greenwich, of which Stuart M. Potter is Chief, originated with the Kiwanis Club of that community. Each year those firemen judged to have had the best record of outstanding service are dined at the special Kiwanis Club luncheon, and presented with engrossed certificates and bonds of $25 each.

This year's awards went to paid fireman John Cullen of the Headquarters Station and volunteer firemen Archie Hayes of the Cos Cob Fire Department; Arthur McElvery of the Sound Beach Fire Department and Robert Crowle of the Volunteer Hose and Chemical Company. All these departments are included in the Town of Greenwich fire force.

Present at the luncheon were officials of the town of Greenwich, and the Kiwanis Club, with President Russell Norton presiding. Guest speaker was Chief Roi Woolley, assistant editorial director of FIRE ENGINEERING.

This Bird's Eye View of a Burning Cabin Cruiser, Taken from a Seaplane Over Long Island Sound, Off Norwalk, Conn., Shows Other Boats Nearby Which Rescued All but One of the 13 Fishing Party Members Aboard. The Seaplane, Piloted by George Currie of Fairfield, Conn., Passed Over the Scene on a Flight from the Westport Seaplane Base. Mr. Currie, a Pilot for the Base, Took the Above Picture

Fatal Cabin Cruiser Fire

One man was drowned and 12 other persons had narrow escapes on September 3 when a 40-foot cabin cruiser burned off Calf Pasture Beach, Norwalk, Conn., after an explosion in the engine compartment, forcing them all overboard.

The drowning victim is Robert Harrington, 42, of Bridgeport. Unable to swim, he went under water twice, once in falling from the cruiser, and again when would-be rescuers overloaded their small boat in taking Harrington aboard, capsizing it.

Within several minutes, other boats attracted by the smoke from the blazing cruiser picked up Harrington and the survivors. The 13 were members of a fishing party returning form a day on Long Island Sound, which came to a disasterous climax when the engine caught fire and exploded, about 3:45 P. M., as the craft was near Cockenoe Island.

The boat bore the name "Rex" on her prow, but a spokesman at the U. S. Coast Guard Station at Northport, N. Y., said it was registered as the "Rudlin," owned by John Cordelle, of 8 Smith Street, South Norwalk. The discrepancy between the registered name and the name on the bow is a violation of maritime regulations, the spokesman said.

TOM MAGNER

Left to Right: C. Carleton Gisborne, Second Selectman; Volunteer Fireman Arthur McElvery; Volunteer Fireman Robert Crowle; Chief Stuart M. Potter; Paid Fireman John Cullen; Roi B. Woolley, Associate Editor, FIRE ENGINEERING; Volunteer Fireman Archie Hayes, and Russell Norton, President, Kiwanis Club of Greenwich.

Bay City Publishes Useful Fire Safety Handbook

The Bay City Board of Education, Bay City, Mich., published a highly useful fire prevention and safety handbook intended primarily for the city's classroom teachers, but actually containing information that should aid any fire chief, teacher or other promoter of fire safety.

The book, of 50 pages and cover, mimeographed, is the product of the City Wide Safety Committee of Bay City, a group composed of representatives of all public and parochial schools. Its five chapters are headed: 1. Origin and Development of the Fire Department; 2. Some Curriculum Units on Fire Prevention and Safety; 3. Suggestions for Programs in Observance of Fire Prevention Week; 4. Miscellaneous Guides for the Study of Fire Prevention and Safety; and 5. Bibliography.

Chief Joseph Trudell, head of the Bay City Fire Department, was active in preparation of the handbook. Although no attempt has been made to make the book a complete treatise on fire prevention, it can serve as a comprehensive study guide for resourceful teachers who

seek ideas on its teaching and ways of presenting the fire prevention message to children.

According to Chief Trudell, the book is the culmination of several years' effort to develop basic material that could be used in local schools of all types and both himself and his department, as well as school authorities, are pleased with the results.

October Fire Losses

An estimated $49,953,000 in property was destroyed by fire in the United States during October, an increase of 2.3 per cent over fire losses of $48,914,000 for the same month a year ago, it was announced by W. E. Mallalieu, general manager of the National Board of Fire Underwriters.

The October losses represented an increase of 8.8 per cent above September's total of $45,922,000.

The total estimated fire loss for the 12-month period ending October 31, 1950, is $686,245,000, an increase of 2.5 per cent over losses of $669,487,000 for the 12 months ending October 31, 1949.

These reported losses under fire insurance policies include an allowance for uninsured and unreported losses.

Every Employee a Fireman

The Basic Refinery of Cities Service at Lake Charles, Louisiana, believes in fire protection. All its 1,654 employees, everybody but office workers, are trained fire fighters. Every one of them has attended lectures and fire fighting drills. They have learned how to recognize types of fires and the best methods of combating them.

From May 1 to September 30, each year, the training goes on, with groups of from 15 to 20 in each class. Every new employee learns what to do and every veteran is kept abreast of fire fighting methods with refresher courses. A minimum of eight hours' training in actual fire fighting technique is required.

The heart of the fire fighting system are the fire department regulars who man the fire truck and lead the attack if a real blaze should start. At fires and at demonstrations their white safety hats set them off from the other aluminum hatted refinery workers.

The refinery's fire chief is D. H. McManus, who learned his business as a member of municipal fire departments. While a civil service employee stationed in Army Air Bases and Camps, he acquired a broad knowledge of oil fires. The department was organized in 1945 by J. B. DeLaune, head of the Plant Protection Department.

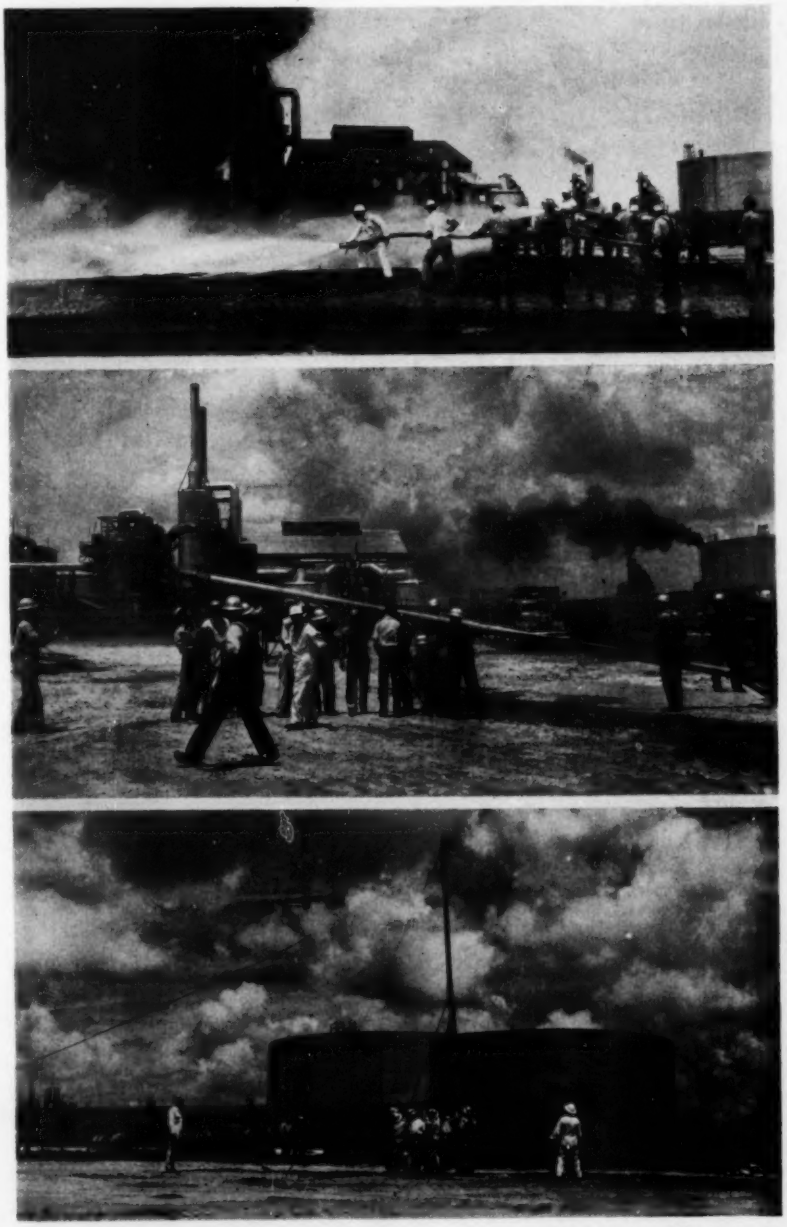
As part of the course, the trainees use hose and extinguishers on a test fire. In a remote area of the Refinery there is a fire pit, 30 feet long by 40 feet wide. To charge it for a fire fighting demonstration 2,000 gallons of slop oil and 200 gallons of gasoline are needed. When this highly inflammable mixture is lit, no one has any doubt about how hot a typical oil fire can get. Small fires in pans, drums and other small containers are set also. They are used to demonstrate the effectiveness of hand extinguishers.

The extinguishing agents used in the large units are chemical foam, mechanical foam and water fog. In the smaller set fires carbon dioxide, carbon tetrachloride and chemical foam are used.

The chemical foam in its original form is a dual powder. One powder, "A," consists of an aluminum sulphate solution. The other, "B," is made of sodium bi-carbonate combined with a stabilizer. By mixing the two powders with water, the final liquid foam is obtained.

Mechanical foam, sometimes referred to as air foam, or as the U. S. Navy terms it, "bean soup," is a protein base liquid and is discharged through special type nozzles, the foam being generated by mechanical action when combined with air and water. Foam powder used in the small extinguishers is the same as that used in the larger units.

The photographs reproduced herewith show a refinery training group learning how to fight oil fires. The Cities Service fire training program has been so effective, that in December (1950) Mr. DeLaune, assisted by the members of his staff, will conduct a huge fire fighting demonstration in New Orleans at the specific request of the Louisiana Safety Association.—HAROLD M. FARKAS.



Photos Courtesy Cities Service Co.

Top: The Drill Pit Is Ignited and Drill Master Takes Nozzle to Show Men the Correct Way to Open Nozzle and Approach Fire. The Other Fire Hose Lines Are Opened Up and Brigade Members Help Bring Fire under Control. All Fire Brigade Men Are Instructed to Watch for Flash Backs. Center: Instructions Are Given by Drill Master in Raising the Portable Foam Towers. Men Are Assigned to Special Duties while the Tower Is Being Raised. Each Man Realizes What Would Happen if the Tower Were Dropped. Bottom: The Foam Tower Goes Up, with Drill Master Watching Every Move. He Tells the Men with Guy Lines that from Now on It Is Up to You.

Delaware River Bridge Gets Fire Test

Said to be the first major bridge in this country to be provided with good fire protection, the Delaware River suspension bridge underwent tests of its dry pipe system last summer.

The bridge, opened in July, 1926, measures 8,291 ft. from the 5th Street, Philadelphia, Penn. portal to that between 5th and 6th Sts. Camden, N. J. Its eight traffic lanes are flanked by subway bridge electric tracks. The roadway at the bridge center is 157 ft. above low water in the Delaware River. The span between towers is 1,750 ft. and width of cartway about 72 ft. Daily traffic in buses, trucks and passenger vehicles exceeds 60,000 average with peak days of about 100,000.

DELAWARE RIVER BRIDGE
TESTS ON DRY STANDPIPE SYSTEM, SOUTH SIDE

Location	Apparatus		Press. Intake	PSI Disch.	Eng. RPM.	Hose 2½" No.	Hose 2½" Lengths	Nos. Tips	Pitot Press.	Tot. GPM.
1. Phila. 3rd. St....	Eng.	8	10	190	1,700	2	600′	1⅛″	46/47	510
2. Phila. Achor'ge .	Eng.	21	30	210	1,675	2	450′	1⅛″	45/47	507
*3. Phila.	FB	1	...	210	1,900					
Tower ...	Eng.	—8	108	200	1,700	2	900′	1⅛″	53/54	547
*4. Camden	FB	1	...	209	1,900					
Tower ...	Eng.	2	110	200	2,500	2	900′	1⅛″	45/49	514
**5. Camden .. Del. Ave..	Eng.	2	15	245	2,650	2	750′	1⅛″	42/43	488
6. Camden 3rd St....	Eng.	x1	28	200	....	2	600′	1⅛″	47/48	515

*Fireboat held at 1900 RPM using one of four engines and pumps. Can operate at 2200 RPM using any combinations of pumps, with terminal pressure in excess of 250 PSI under this load.

**First (old) pumper hit terminal pressure at only 185 PSI and was replaced by a new pumper, at a different hydrant offering better residual pressure. Relatively poorer results due to necessity to lay 350 and 400 ft. lines from pumper to siamese, as against 50 to 150 ft. lines on other tests. Several lengths of hose broke at this pressure.

All but one pumper were 750 or 1000 GPM Class A rating. All hose was 2½ in. CRL, double jacket, fire department standard. Small 'pony' connections were used in pumping from bridge deck. One of these broke in test No. 2 at an input pressure of 108 PSI.

Lines Along Roadway of Bridge Supplied by Standpipe System and Pumpers.

Because of its important location as a military necessity, fire protection is important. After some discussions, plans were worked out jointly by engineers of the Delaware River Joint Commission, Chief Engineer John C. Cost of the Philadelphia Bureau of Fire, Chief William Van Pfefferle of the Camden Bureau of Fire and the Middle Department Association of Fire Underwriters.

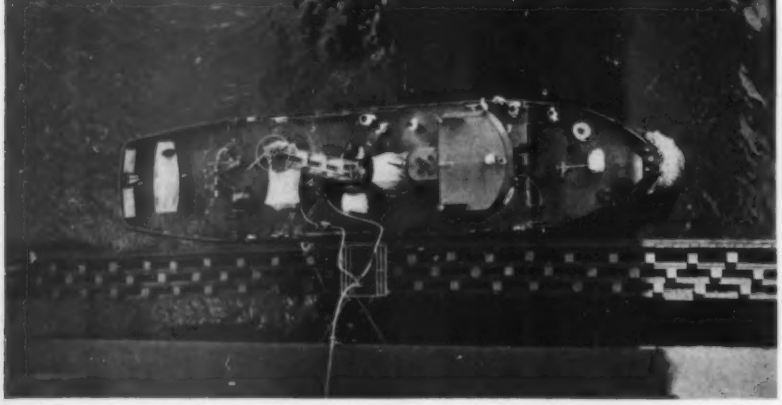
The basic fire protection consists of six pairs of vertical standpipes on opposite sides of the bridge, each standpipe having a siamese connection at the base and two 2½-in. gated hose connections at the bridge deck. These standpipes are located: two (independent) at 3rd St. Philadelphia, 1,130 ft. from one standpipe at anchorage, Delaware Ave., Philadelphia, which is wyed to both sides of the bridge, 100 ft. above grade and 852 ft. from a standpipe at the tower in Philadelphia, which is wyed to both sides of the bridge, 142 ft. above the fire boat connection at low water elevation, and 1,750 ft. from the Camden tower. Here the conditions are the same as with the Philadelphia tower (a distance of 1,433 ft.) At Delaware Ave. Camden, one standpipe is wyed to both sides of the bridge, 84 ft. above grade and 1,200 ft. from the two independent standpipes at 3rd St., Camden, 39 ft. above grade, which in turn are 1,025 ft. from the 6th Street bridge portal.

Standpipes are mostly 4 in. diameter, have air relief valves at the top, clapper valves in the siamese and a manual main drain valve at the base.

Plans call for fire and emergency alarms to be reported by bridge police, giving a zone number for location. Alarms will be dispatched by the bridge radio operator to either or both of the Camden and Philadephia fire alarm headquarters, which in turn will send out the signal as a special box alarm. Apparatus layout calls for one or two pumpers at ground level supplying the standpipes from hydrants at four locations, with two hose tenders on the bridge deck. The tower locations require a fireboat, supplemented on the bridge deck by a pumper and two hose tenders.

Tests were completed this summer to determine the most practical and efficient methods of fire department operations, and to provide data for instructing crews, both fire and police. All preliminary calculations were made on a basis of delivering 500 GPM at 50 PSI nozzle pressure at points equi-distant from standpipes. Using both tower approaches it should be possible to double this quantity at the center of the bridge.

Standpipe Lines on Tower of Bridge.



Fireboat "Delaware" Delivering Water Through Hose to Standpipe System at Bridge.

The difficult questions of traffic control were handled by the bridge engineers and police, closing two south lanes after the commuter rush had abated at 9:00 A.M. Tuesday, Aug. 8, maintaining traffic on the other six lanes by means of police details guided by bridge radio. Tests continued until after noon without accident or interruption.

The new Philadelphia fireboat "Delaware" was used on both sides of the river at tower connections, operating from her berth at Race Street immediately adjacent to the bridge. The ship is diesel driven, rated 800 BHP to deliver 6,000 GPM at 150 PSI pump pressure. Communications, in addition to the two-way bridge radio cars, were handled on the Philadelphia side by portable two-way radio from bridge deck to grade pumpers and the fireboat. On the Camden side, police radio cars maintained contact from bridge deck to ground pumpers and fireboat.

Test results, released by the Middle Department Association of Fire Underwriters are summarized in the table on the opposite page.

Conclusions

The tests demonstrated the basic success of delivering 500 GPM at 50 PSI nozzle pressure to any point on the bridge deck, using existing equipment on either the Philadelphia or Camden side of the bridge. With this assured, the breakdown for 1-in. and 1½-in. hose layouts with straight or fog nozzles is readily ascertainable, again using standard equipment.

The operation showed the need and ability for intelligent handling of traffic under emergency conditions. Fire departments should have an outline of procedure developed by bridge authorities.

Communications were generally satisfactory except for radio interference at the Philadelphia Anchorage position. It is suggested the existing bridge telephone line at this point be extended down to an instrument at grade level.

A zoning plan is recommended, with each position marked north and south with a large painted numeral, utilizing "scotch-light" night identity—also that land grade siamese pumping connections be similarly marked.

A complete understanding should be reached on an adequate response of Philadelphia and Camden Fire Departments as worked out jointly with bridge authority. Use of phantom fire alarm boxes is recommended for use over the telegraph system, followed by a zone number. It is suggested also that a rescue squad be included in the response.

A second Philadelphia fireboat should be tried out in making tower connections to cover No. 1 when out of service. Also hydrant layout on the Camden side should be improved to provide better supply and accessibility for pumper-siamese operation.

Amesbury Mill Fire Taxes Handicapped Firemen

It seems inconceivable that a fire could start at about the busiest time of a busy Saturday afternoon on a loading platform adjoining a 6-story mill and not only involve the platform but eat its way into the mill itself before it was reported and firemen could get to work on it. Yet such was the beginning of the worst fire to strike Amesbury, Mass., since 1933. It swept a large mill building housing a furniture warehouse (just loaded with $60,000 worth of Christmas merchandise), a cabinet manufacturing company and bowling alleys, causing damage set at $227,000.

Careless smoking is advanced as the probable cause of the blaze although the premises were believed to be unoccupied at the time. The fire was discovered soon after 2:00 P.M., Saturday, November 11, by Selectman Walter M. Hellen, working at the Commonwealth Supply Co. nearby, who sounded Box 6, located in the mill yard. The destroyed building, owned by Edward D. Hanley of Amesbury, was built in 1862, and originally used as a woolen mill until 1922 when it was purchased by the Merrimack Valley Power and Buildings Co., after which it was used for miscellaneous manufacturing. The old structure was located at Main and Friend Streets. The sixth floor was occupied by a metal cabinet manufacturing concern. Three stories were occupied by the furniture warehouse. The structure also contained several bowling alleys.

The alarm is reported to have caught the Amesbury Fire Department shorthanded. Many call members of the department were in Danvers at the time of the fire, watching the Amesbury-Danvers football game. Other call members were away marching with the local American Legion drill team at the Ipswich-Aver football game at Ipswich and were late in getting news of the fire. Cheerleaders at the Amesbury game requested call firemen to return to Amesbury as quickly as possible late in the third quarter, and while this brought back some men, they missed the opening and critical phases of the fire.

The fire, starting on the loading platform located at the rear of the building on the side adjoining the municipal parking lot off Friend street, spread rapidly through openings into the structure, then roared up an elevator shaft and extended through open fire doors to the five floors above the first floor.

Responding firemen found themselves beaten at the start. Calls for additional help were dispatched to Haverhill, Newbury, West Newbury, Merrimac and Newburyport. To make matters worse, insufficient water pressure at the outset retarded fire fighting operations. This was later remedied when more pumps at the Ring's corner pumping station were put into operation, pumping water to the high pressure reservoir on Powwow Hill.

Little more than an hour after the fire started, the rear section of the building collapsed, accompanied by a series of hot air explosions that sent flames and smoke high in the sky. Drums of paint thinner used in manufacturing accounted for other explosions.

Hand lines and ladder pipes, one located on the city's new aerial ladder, helped check the spread of the fire to nearby exposures. Flames were prevented from extending to an adjacent eight story tower, formerly housing the town clock, and attached to the building; nevertheless, the fire continued to burn in the basement throughout the day and night and following day.

Deputy Chief Louis J. Bartley, of Amesbury, was in charge in the absence of Chief George A. MacDougall, who was in Boston with Mrs. MacDougal celebrating their 35th wedding anniversary. The Chief made a hurried return, arriving just after firemen had the blaze under control.

Annual Kansas Fire School

The 21st Annual Kansas Fire School, held in Hutchinson, Kans., on Oct. 23-26, saw an enrollment of 275 fire fighters, representing 80 departments in the state. The Hutchinson Fire Department was host to the School.

The Director of the School is Mr. Gerald Pearson. Special emphasis this year was placed on extinguishing gasoline and oil fires, using water, fog and foam.

This year, the School sealed off part of the drill tower to improvise a smoke house in which men were given instruction on breathing apparatus of different types.

Many periods in the morning sessions were devoted to panel discussions, and question and answer periods. One panel, entitled "Town Hall," brought out ideas of what different towns are doing in the fire service today. Six communities were represented on this part of the program. The afternoon classes of inspections, pumper operations, essentials of firemanship, and modern fire fighting techniques, were well attended. On Wednesday afternoon the Hutchinson Fire Department was host to the Fire School Stag, held at No. 1 Station, where Chief Hazell provided a fine barbecue dinner.

Another highlight of this School was the Civil Defense problem in which Standish Hall, Director of Kansas Civil Defense, disclosed the importance of a good civil defense program. Following Mr. Hall, Dr. Frank Hoecker, Assistant Professor of Physics, University of Kansas, discussed the atom bomb, emphasizing the problems firemen would encounter in combating fires in an affected area.

The School registration also included industrial firemen of the State.

Amesbury Firemen Fight Big Fire Against Odds

Delayed alarm, shortage of manpower, low water pressure handicap firemen at costly mill blaze that started in a loading platform and involved ancient structure.

Fire Oddities

The operator of Engine No. 56 in New York City, on arrival at a fire, pulled up to plug and removed the suction cap on the engine. Out fell a bunch of keys on a ring. Inquiry amongst the men in the company failed to locate the owner of the keys, which raised the question: How did they get into the suction?

Early one Fall day Truck Co. 25 in the same city came up Amsterdam Avenue in answer to a box alarm and turned east through 82nd Street. In the middle of the block was a house with smoke issuing mildly from several of the windows. The truck stopped in front of the house and two firemen, carrying hand extinguishers, dashed up the steps and rang the door bell. No other apparatus had arrived and no one in the house appeared to notice the arrival of the truck. When the door was opened it developed that no call had been sent from there for fire apparatus. The occupants of the house were just lighting their furnace and, as it was the first time of the season, it was cold and smoky. The truck went on to the next block where they found a real fire—not too bad, but bad enough to justify the alarm.

The accompanying photograph shows a self-propelled steam fire-engine. The photo was taken in 1921 in the house of No. 4 engine of the Hartford (Conn.) Fire Department. Though once in fairly common use, such a machine was decidedly an oddity even as long ago as 1921. The engine was about twenty years old at the time. A curious feature of this and some similar engines was the fact that the engineer handled the throttle while the driver operated the brakes and the steering. A steam pressure of 100 lbs. was maintained in the house so that the engine would be ready for a quick start. The boiler was big, much larger than the largest steamer boiler in use at that time in New York City.

The New York Fire Department had one or two of these self-propelled steamers long ago, but they were found to be not quite so handy to get around as the horse-drawn steamers and they were discontinued. Long after they were gone, the badge of an Engineer of Steamer in the N.Y.F.D. carried an embossed picture of one of them. The design was never changed, in fact.

A volunteer fireman at Lyndhurst, N. J., went for 27 years without missing an alarm. He was not trying for a record and would sometimes be away from Lyndhurst on a trip for three or four days at a time, but while he was thus occupied the fire whistle would always remain quiet until he arrived back in town.

G. W. O'Connor

Photo by William C. Peck

Super Market Fire at Niantic, Conn. View Shows Entire Rear Section of Structure Involved. Photo Was Taken Approximately 15 Minutes After Alarm

Super Market Destroyed

A large super market, located on Main Street in the town of Niantic, Connecticut, was completely destroyed by an early morning fire on November 1st, 1950. One fireman was severely injured during the fight to control the fire.

The fire was discovered by a passing motorist at 1:20 A.M. An alarm from Box 14 brought members and equipment of the Niantic fire department under the direction of Fire Chief LeGrand J. Hall to the scene. The entire rear section of the Friendly Market, a one-story wooden structure, was a mass of flames upon arrival and Chief Hall immediately sent out a call for assistance. The Flanders fire company located four miles to the north responded, arriving about 1:35 A.M.

Hose lines were laid, and the fire was attacked from both sides, from the rear and through the front of the store. Lieut. Ronald Doane of the Niantic department received severe lacerations on his right hand when the plate glass door blew out as he was attempting to force an entrance.

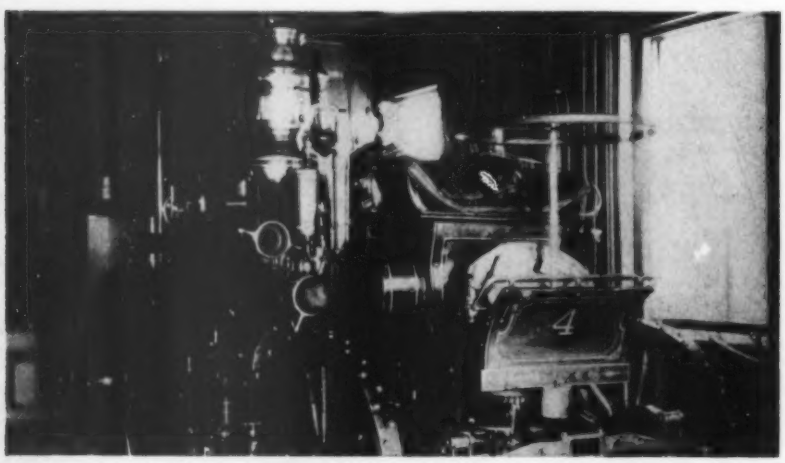
Aided by the absence of any wind, mild temperature and a solid brick wall of the adjoining Connecticut Light and Power company building, the determined efforts of the firemen kept the fire confined to the super market. However the structure was practically levelled and the entire contents were destroyed.

Recently installed radio equipment proved to be a valuable contact between the apparatus at the fire and headquarters.

The building was used as a social center for troops stationed in Niantic during World War I and later housed bowling alleys.

Fire Marshal Joseph Bisbee of the town of East Lyme has asked the state fire marshal's office to assist in the investigation to determine the cause of the fire. Damage was estimated at $25,000, making it one of the most damaging in the history of the town. The building, store fixtures and contents were covered by insurance.

William C. Peck



Old Steam-Propelled Fire Engine

Keystone Fire Chiefs Condemn Siren Ban

Ed Robb, of Philadelphia and fire chief of the E. I. DuPont de Nemours and Company in that city, was elected president of the Keystone State Fire Chiefs' Association at the annual meeting of that group held Saturday, November 18, in the headquarters of the West End Fire Company, Phoenixville, Pa. Robb replaces William L. Stackhouse, of Doylestown, who served in the office for two years.

George W. Lee, president of the Montgomery County Firemen's Association and a resident of Royersford, was elected treasurer of the group, replacing Orland Smith of Darby, who resigned because of illness.

Samuel Moyer, Hyde Park near Reading was named 1st vice president

(*Continued on page* 1018)

News of the Manufacturers

Rust Inhibitor for Booster Tanks

Rust or corrosion is constantly at work in water tanks, causing deterioration of the metal, rusty water and rust-scale. Flakes of rusted metal loosen and collect in the bottoms of the tanks. There is always the danger that this rust-scale will clog fog nozzle tips and result in costly delays in fighting a fire.

Ed Hofer, Chief of the Beaver Falls, N. Y., Fire Department, Demonstrates Method of Mixing Banox, Composition W. T., for Use as a Rust Inhibitor in the Water Tank of a Fire Department Pumper

Also these flakes and bits of rust-scale, being abrasive, can be harmful to such fire-fighting equipment as certain types of pumps, which depend on the smooth functioning of closely machined parts for efficient operation.

Fire departments find it necessary to dump and clean the water tanks periodically, and replace water tanks that have been seriously damaged by the "slow fire" of corrosion.

The new rust inhibitor, known as "Banox, Composition W. T.," was developed as the result of the initial efforts of a fire chief—Ed Hofer, of Beaver Falls, New York—to obtain a more effective solution to the problem. He looked up the local representative of Calgon, Inc., Pittsburgh, a firm specializing in corrosion control in industrial and municipal water supplies. Calgon, Inc., chemists, after extensive laboratory and field work, developed the rust inhibitor by adapting an earlier "Banox" formula to make it most suitable for use in fire-fighting

Working with the chemists Chief Hofer made the original trial use of the new Banox formula, beginning in the summer of 1949. He reported:

"In July, I put the first charge of Banox in our water tank. We soon had a couple of fires, so after the tank was empty we drained out all the rust and scale and refilled with water and Banox. Since then we have not had rusty water in our tank, nor seen any new rust scale. And our examinations show that this material is protecting the tank itself, and reducing the danger of fog nozzle clogging."

Calgon, Inc., representatives report that Banox, Composition W. T., has proved effective in combatting corrosion in all kinds of metal water tanks in fire-fighting equipment (iron, steel or galvanized) and in all types of water—including hard or soft, stagnant, brackish or sea water, and water to which salt is added to prevent freezing.

Extensive tests, they add, show that Banox will not damage copper, brass, rubber, paint, wood, furniture, rugs and other fabrics, wallpaper, or any other materials which are not affected by plain water. It is non-combustible, contains no acids, alkalies or chromates, and is non-toxic and harmless to the skin and clothing.

Banox has also proved effective in preventing rust and corrosion in non-draining fire hydrants that are charged with salt to prevent freezing.

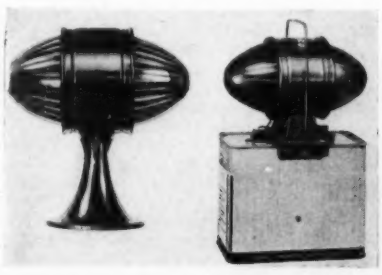
A.S.S.E. Elects Dr. W. P. Yant

Dr. William P. Yant, director of research and development for Mine Safety Appliances Company, Pittsburgh, has just been elected president for 1950-1951 of the American Society of Safety Engineers.

A graduate of Wooster College, Wooster, Ohio, Dr. Yant has been with the safety equipment company since 1936. He formerly was supervising engineer of the Pittsburgh Experiment Station, U. S. Bureau of Mines.

New 360 Degree Flashing "Dualite"

The Portable Light Company, Inc., 216 William Street, New York 7, N. Y., has introduced a new "Dualite" which gives full 360 degrees of alternate flashing warning red light, for use on fire service fire patrols and other emergency apparatus, or on the ground.



New Dualite of Portable Light Co. Left, Style No. 31; Right, Style No. 30

The product consists of two large 4-in. diameter conical lenses with condensing prisms and chrome plated reflectors. The overall length measures 7½-in. The unit can be had either in portable type (Style No. 30) for use on the road or fixed type, for roof mounting (style 31).

New Development in Fire Fog

Through the results of several years of experiment and research, American Fire Apparatus Co., of Battle Creek, Michigan, has developed a fire fighting fog system called Barton Super-Fog. It is a small line system working at pressures from 250 to 800 pounds, giving fog streams that protect the hoseman, smother and blanket the fire and cut water damage to a minimum.

With ease of operation,the nozzle man can have a variety of streams, from straight streams to short range fog to long range fog.

Barton Super-Fog Gun

The Barton Super-Fog Gun is unique in that the fog is created within the gun. The gun is easily operated by one man for it has no "back lash." The Barton Super-Fog Gun weighs seven pounds and is approximately 18" long.

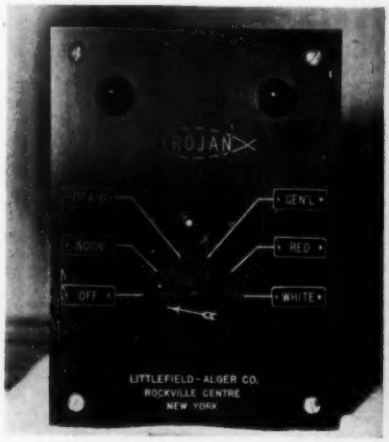
Each new American Fire Apparatus fire truck is equipped with one or more Barton Super-Fog Guns.

New Siren Timing Device

A most important factor in civil defense, as it is in the fire service, is that of communications. One of the problems of communications is that of timing electric sirens so that a signal may be repeated and always sound the same, which is not always possible with manual timing.

To fill this need the Littlefield-Alger Signal Co., 235 Merrick Road, Rockville Centre, L. I., N. Y., has introduced the "4800 Trojan" timing device for fire departments.

The device, which operates on 115 volt 60 cycle current, consists of a compact cabinet which can be mounted flush on



New "Trojan" Timing Device

the wall or on the wall surface, or on a desk, providing a total of six timing circuits or controls. It has a six-circuit selector switch—as indicated in the accompanying illustration, to permit calls for such emergencies as First Aid, Red and White Alert, General Alarm, Noon —or other period signal, etc. It has a

(*Continued on page* 1021)

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

Courteous Cafeman Visits Firemen—With Reason

Thomas Raissis runs a restaurant in Patchogue, L. I., where he got his training in the gentle art of always pleasing customers.

Thomas walked into the fire house of the Patchogue Volunteer Fire Department t'other day, carrying a fire extinguisher and politely asked the station custodian, George Fogarty: "Can I have this fire extinguisher refilled?"

"We don't re-fill extinguishers," answered the custodian.

"Well, can I borrow an extinguisher?" Raissis inquired.

"We don't loan them" said Fogarty.

"Well, the only reason I wanted it is that there is a fire in my restaurant," came back Raissis, still courteous.

Firemen, called on the double by custodian Fogarty, scurried a block and a half to Raissis's restaurant. The fire was located in blazing grease between two sections of the stove. The vamps dumped foam on the blaze and fifteen minutes later the food shop was back to normal.

"It might have been a serious fire," Fire Chief Henry Shepherd remarked.

"I didn't want to arouse too much excitement," Raissis replied calmly.

(Thanks to the many who sent this item.)

* * *

Stop, Look, Listen Before Tubbing!

Mrs. Robert Chamberlain of Old Newton Road, Stepney, Conn., was taking a bath when the fire siren in Lower Stepney sounded at 10:45 A.M. on October 28. Running to the phone to ask Fire Headquarters the location of the fire she got an answer she wasn't expecting.

"I'm Mrs. Robert Chamberlain," she told the information attendant, "Can you tell me where the fire is?"

"Certainly, Mrs. Chamberlain," said the attendant. "It's at your house. The roof's on fire!"

A truck driver, who didn't identify himself, had turned in the alarm from a neighboring house. The fire, starting from chimney sparks, did slight damage.

After the Stepney firemen extinguished the fire and returned to quarters, Mrs. Chamberlain returned to her tubbing.

(Thanks, Tom Magner.)

President Truman Says He's "Hot Number"

President Truman, who seems to be pursued by "alarums and excursions" these days, encountered another incident during a reception at the Women's National Democratic Club in Washington on the night of November 19th.

The President and Mrs. Truman were honor guests at the affair. While they were shaking hands with a reception line of 450 persons, fire proved to be an unscheduled "horner-inner" on the social event.

The wooden frame of a fireplace in the Club caught fire. The staff quickly,—and quietly called the District of Columbia Fire Department and with members of the personnel guarding the President, deployed to fight the fire——and discourage any untoward excitement.

So effective were the security measures that the President and Mrs. Truman did not learn of the fire, which was confined to a chimney in the rear of the first floor of the old building, until they were on their way out of the building. Then informed about the little blaze President Truman's only comment was, "Yes, we are hot numbers."

* * *

Barbers Get Trimmed—as Volunteer Firemen!

Being a volunteer fireman, and subject 24-hours-a-day to the whims and vagaries and dangers of his calling is tough enough on any man. It's tougher, however, for the chap who runs his own little business and has to make every customer count. Then, when he, the vamp proprietor, answers the alarm it hits him right in the pocketbook!

Then there is the volunteer's customer to be considered. It may be bad for the vamp merchant, the lawyer, and the doctor, but how about their customers, clients and patients? What happens, when the latter are left flat in store, reception or consulting room, as their merchants, lawyers and doctors fly off to the fire!

Keep that in mind in thinking about the effect of the dry weather on barber shop customers in Granbury, Texas, for example.

Down there—well, like everywhere, the dryer the weather the more frequent the fires. And when there's a fire, Barber Clyde W. Roberson, who is also chief of Granbury's Fire Department, runs off and leaves a customer sitting in the chair.

On a November Wednesday, Barber-Chief Roberson fled his shop four times —with a customer in his chair each time, to fight fires. The week before, Roberson went to 18 fires. There has been an epidemic of grass fires. And the Granbury Fire Department ranges over four counties, Hood, Parker, Johnson and Tarrant.

"I'd sure like to see a good rain" somewhat plaintively opined the chief, "then I could go on with my barbering!"

(Thanks JACK KEARNS)

* * *

Off the Tape

In Wyoming, Ill., a pigeon gave an unscheduled demonstration for Fire Prevention Week. The bird carried a lighted cigarette into its nest in a room where cable is stored at the Illinois Commercial Telephone Co. building. The fire department got a mild workout! . . . Marching vamps, togged out in costumes ranging from silk toppers and swallowtails to the tatters of hoboes, suddenly dashed out of a parade in Little Ferry, N. J., to put out a small brush fire. Interruption came as the members of Hose Co. 1 were holding their annual ragamuffin parade. . . . In St. Louis, Fred Knussman, 56-year-old postman, was sentenced to a year and a day in the Federal pen' after he explained to the court that he sometimes burned the mail when his arthritis was bothering him! . . . Passersby stood pop-eyed outside a downtown Pittsburgh department store as a squad of firemen dashed out the door with the body of a woman, her clothes ablaze. She stood placid and undisturbed while the fire fighters stripped her. Then the smoke-eaters, with red faced chivalry, draped a blanket over the smoldering, smoking clothing dummy. . . . Well, whada ya know—here's another case of the fire being taken to the door of the fire station. In Philadelphia, members of Engine 55 did their stuff when a load of "stuff" in a rubbish truck caught fire and the driver hustled it to their quarters. . . . In Concord, N. H., Rev. Edward Milley's sermon at the First Methodist church was good. His congregation sat attentive while a fire truck rolled up outside and firemen ran in to fight a blaze in the basement. Nothing like having a fire in the right "atmosphere." . . . Charles L. Nash was reported unpurturbed when his bed caught fire in an Atlanta, Ga., hotel room. Police said he got up, turned the burning mattress over and was going back to sleep when they arrived. . . . East St. Louis firemen reportedly used 500 lbs. of oxygen to revive a 15-month-old baby boy who held his breath until he lost consciousness. An inhalator squad worked 50 minutes on the lad, whose father brought him to the nearest fire station where he stopped breathing. It all came about because the lad's mother scolded him for a climbing on a windowsill. That's getting a real mad on! . . . In Toledo, roofers made a slight oversight. They were putting on a new roof on the house of Mrs. Patsy Woodruff. She was startled to find smoke pouring from the attic shortly after she lighted a stove in the living room. She called the firemen, but they found no fire, but did discover that the roofers had forgotten to put back the chimney and covered the hole with shingles, forcing smoke into the attic. Now you tell one! . . . [Thanks Brother Spangler!] . . . Folks in the neighborhood of the Holy Family Parish Church, Detroit, Mich., petitioned police to put an end to Sunday morning explosions at the church. A group at the church adopted the novel idea of setting off 20 explosive charges to awaken members for services! Bang up services, we calls it!

* * *

Hell's-a-Poppin'—But He's Only Scorched!

All hell broke loose when the television antenna on Ernest Kolesiak's house in South Bend, Ind., fell across a 27,000-volt power line on November 19th. Here's what was recorded:

The plumbing began throwing off sparks and pipes melted around the kitchen sink.

Mrs. Kolesiak, peeling potatoes, found her spectales specked with molten metal.

Balls of fire bounced up and down on the roof with thunderous explosions.

The high voltage burned out the television set and blew off one of the knobs before the power company shut off the power.

A glove lying in the yard burst into flames.

The house was scorched in three places where wires passed through the walls.

Kolesiak, who was trying to tighten the antenna guy wires, was only slightly burned.

The family dog ran off. He was found, but refuses to go home.

And the fire fighters had a dizzy few minutes of it!

Short Cuts and Gadgets

WAYS TO KEEP WINDOWS OPEN

The use of wedges to keep windows or doors open during fire fighting operations has been commented on in this column, and a number of suggestions have been offered for gadgets of one kind or another to serve this purpose.

In the shuffle, another idea suggested by Assistant Fire Chief William F. Haviland, of Glens Falls, N. Y., was overlooked.

The Chief writes: "My practical short-cut answers the question where is something to keep the windows open? It is used by us in our department, is inexpensive and is easy to carry in ones bunker coat pocket."

"Our men," he states, "are supplied with a handful of what are known as '"spoke wedges."'. They are small wooden wedges measuring 1¼-in. long, by ½-in. wide by ⅜-in. deep at the deep side, from which side they taper to a sharp edge.

When a window has no stop and will not remain open when ventilating, the wedge is simply introduced between the window and its stop. When leaving the building, the wedges can be left on the premises because of their cheapness. "I believe they cost about 60 cents per gross," he concludes.

Chief Haviland says this idea has served well in his city, and he believes it will be appreciated by others.

Previous short cuts and gadgets for holding windows and doors open include half a clothes pin; wooden wedges of different sizes and materials; metal pins, etc.

* * *

BULLETIN BOARD

One of our correspondents, who gets around the country and visits fire stations, makes this observation in a letter to the editor, which we pass on to our readers for what it may be worth. Says he:

"One thing I've noticed (or failed to find, because it seems to be missing in most of the fire houses I visit on my trips) is a simple, plain garden variety of bulletin board at the station watch desk.

"Instead of having a neat little board on which special orders, notices and the usual run-o'-mine memos common to most fire departments could be mounted, I find many companies sticking such things all over the place. Some companies have their slate boards, on which they chalk up the alarms, so cluttered up with chalked memo's and notices of torn-up streets, discontinued sprinklers, out-of-order hydrants, and so on, that there's little room for writing the important alarm data—and there is always the possibility of erasing important data when it is necessary to clean off the slate.

"Other companies pin up the printed notices on the wall, or framework of the watch-desk. Some stick them away in a folder or binder—anything to get 'em out of sight—which isn't so good.

"Of course a bulletin board isn't necessarily the answer—if it isn't kept neat, and up-to-date. I did see one that was cluttered up with old notices, postcards, etc., looking like the usual post-office board containing rogue's gallery notices. But where the bulletin board is used, and is kept orderly, it can be a real asset.

"KINK CHASER."

* * *

The Old Timer Says—

I get kinda riled when I see us talking in the language of the hoss-drawn apparatus days! Just t'other day I read in a Chicago paper where "Fire Commissioner Corrigan . . . invited Chicagoans to visit neighborhood "fire barns" during National Fire Week, Oct. 8 to 14."

Of course Commissioner Corrigan, and his firemen don't call'em "barns" any more—or do they? At any rate, isn't it time that both fire forces and newspapers agreed on a terminology that was in keeping with the modern fire fighting business?

* * *

HE'S AGAINST "SHOWCASE" FIRE DOORS

Charles R. Roever, Hempstead, N. Y., opposes the use of glass in firehouse doors.

Brother Roever writes: "You will agree a lot of glass in a firehouse door is very attractive. But from my study of the matter it appears very unwise for departments erecting new quarters, or for departments installing new doors, to permit 'showcase' doors.

"Red paint being what it is (chemical base), it doesn't stand up under constant sunlight, especially if the firehouse faces south or west. If 'showcase' doors are already employed, I believe the incorporation of a new polarized shade over the glass, as commonly seen in store windows, would counteract the sun's rays and prevent further fading of the fronts of fire engines. Painting the glass the same color as the door would be better but the shade should be almost as good and still retain the original style of the door."

We assume that our contributor's opposition to the glass door (or partially glass door) is because the sun's rays may fade the paint of the apparatus. However, we have not located any fire companies that complain of this trouble. We do believe that apparatus should not be located too close to any fire station door because of crowding the station, and because of the possible chilling of the motor in cold weather.

Our observation is that most fire stations do not have "showcase" doors, but rather all metal or wood doors—or casement type doors, in which a small amount of glass is included mainly to provide light.

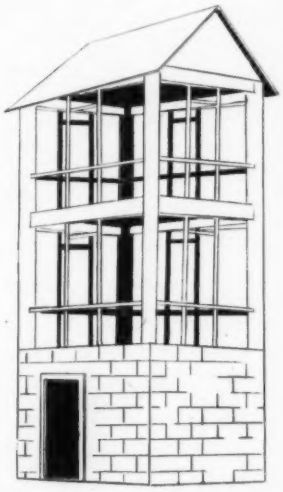
One thing we do know: firemen do not relish the idea of the "showcase," or all-glass fire station door. They do not like living and working like a fish in a goldfish globe. They are entitled to some privacy and it is not particularly good for either the public or the fire fighters to have the former peering in at them all hours of the day and night. On this score it can be seen where "showcase" doors are a decided disadvantage.

CAPTAIN TACCARINO REPEATS

In the October issue we described an outdoor hose dryer devised by Captain F. A. Taccarino, Engine 1, Ocean City Fire Department, Ocean City, N. J. Now we have another idea from the same contributor, this one for an outdoor training tower.

Captain Taccarino writes that his tower is designed for the small department and can be constructed somewhat along the same lines of his hose drying tower which, readers may remember, used for its main support a utility pole.

According to the Captain, the local power and light company or telephone company ought to be able to supply most of the materials for his drill structure. The height, he says, can be arranged to suit the individual needs of the department. So, too, can the width, and the inside stairway and other details. He suggests a wooden ladder on the outside as the fire escape, but some departments may be able to secure an old fire escape which can be mounted on the tower.



The ground, or first floor, can be enclosed in numerous ways, according to the Captain—either by block, sheet asbestos or other material.

The construction of the type tower shown in the Captain's sketch is based upon the use of four telephone poles, with transformer platforms set at the desired height. The balance of the construction (stairways, open framing for windows, roof covering, etc.) can be done by firemen themselves. Several neighboring towns might get together, the Captain believes, to pool their energies and resources on a tower of this type, which can provide an excellent foundation for their training program.

Thank you Captain Taccarino. Keep up the good work.

* * *

The Old Timer Says—

I wonder how many volunteer fire companies know that a recent ruling of the U. S. Treasury Department should further their efforts to acquire funds! The Treasury says it is now possible to deduct from taxable income contributions to volunteer fire organizations. The ruling is said to follow several court decisions holding such gifts "as made in effect in the municipality."

FALSE ALARMS

A doctor who was superintendent of the Sunday School asked one of the boys this question:

"Willie, what must we do in order to get to heaven?"

"We must die," said Willie.

"Very true," replied the doctor, "but what must we do before we die?"

"We must get sick and send for you."

"Some plants," said the teacher, "have the prefix dog. For instance, there is the dogrose, the dogwood, the dogviolet. Now name another plant prefixed by dog?"

"I can," shouted a little redhead from the back row; "Collie flower."

She: "Kiss me once more like that, and I'm yours for life!"

He: "Gosh, thanks for the warning."

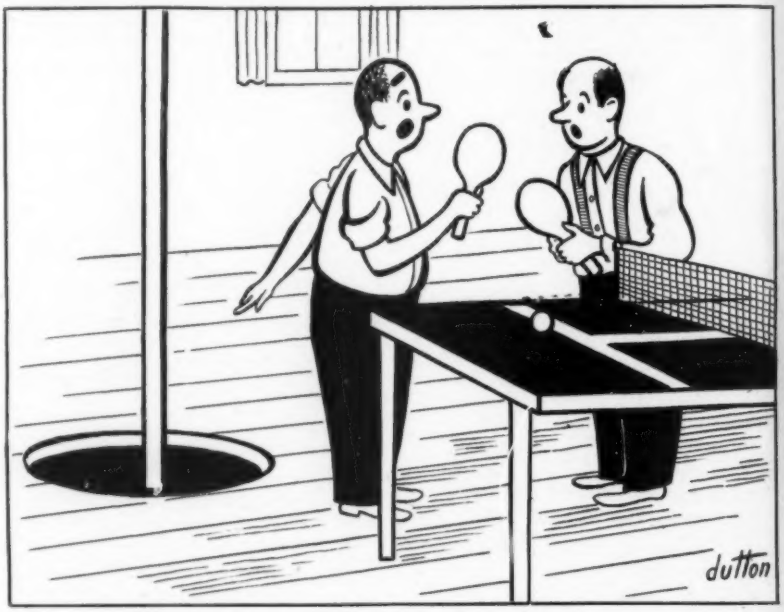
"Now," said the saleslady in a hat shoppe, assuring a prospective customer, "here's a number that will never go out of style. It will just look ridiculous year after year."

Then there was the fellow who wore Jane Russell's sweater backward to a masquerade party and won first prize as a camel.

"How did you learn to kiss like that?" she asked in ecstatic tones.

He replied: "Siphoning gas."

And then there was the hypchondriac who, at a surprise visit from his doctor, greeted him with: "If I'd a known you were comin' I'd a faked an ache!"



"Let's Toss to See Who Has to Play on This Side!"

With his wife sick in bed, hubby—and pandemonium—reigned supreme in the kitchen. But the tea was missing. He looked high and low and finally called to his wife: "I can't find the tea, dear. Where do you keep it?"

"I don't know why you can't find it," came the peevish reply, "It's right in front, on the cupboard shelf, in a cocoa tin marked 'matches'!"

A Russian wolf-hound came over to this country and met an American dog.

"How are things in Russia?", asked the latter.

"Oh, fine, fine", said the Russian dog. "We have fine dog houses and all the red meat we can eat each day."

"Then what are you doing over here?", asked the American pup.

"Hell", said the Red dog, "a fella likes to bark once in a while."

Mark: "Look here fellow, what's the idea of wearing a barrel? Are you a poker player?"

Harry: "No, but I just spent a couple of hours with some guys who are."

Jim: "What's the idea of standing in front of this psychiatric ward each morning and watching that fellow go through the motions of winding up and pitching an imaginary ball?"

Paris: "Well, if things keep going the way they are, I'll be in there some day catching for that guy and I want to get onto his curves."

This younger generation of ours is plenty smart. Take the boy who had asked his father how wars started.

"Well," said Dad, "suppose America quarreled with England and—"

"But," interrupted Mother, "America must never quarrel with England."

"I know," said Father, "but I'm only taking a hypothetical instance."

"You're misleading the child," protested Mother.

"No I'm not!" shouted Father.

"Never mind, Dad," put in the boy. "I think I know how wars start."

says CHIEF H. P. WHITE
of Groton, Conn.

"It was 2 a.m., temperature 4 below zero, and deep snow on the ground—when we reached the U. S. Navy Submarine Base in New London. The Headquarters Building was completely enveloped in flame.

"Quickly, our department took station across an alley on the roof of an adjacent building. Great sheets of fire twisted and curled above and around us. First mattresses had to be laid so our men wouldn't freeze to the roof. Then hour after hour we hurled out water without shutting down the pumps.

"After 6 long hours the blaze was finally extinguished. Our fighting men with their rugged, reliable equipment had helped save hundreds of thousands of dollars in valuable government property."

FOR GREATER PROTECTION TO LIFE AND PROPERTY

Hundreds of fire chiefs and thousands of firemen know the dependability of Eureka Fire Hose—dependability that results from these features:

- ★ **The Unique Smooth-Interior Filler Ply for maximum nozzle pressure.**
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The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FIRE DEPARTMENT COOPERATION WITH INDUSTRIES

THE discussion in this Round Table is a continuation of that which appeared in the November issue of FIRE ENGINEERING on fire department cooperation with industries.

The generous response from our readers made it necessary to carry the discussion over to this issue.

Readers are invited to send in their comments on this subject or on next month's subject which is described in a box on a subsequent page, to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

Thomas M. Lane, Chief, Alameda, Cal.: We cooperate with the industrial plants in our city by assigning one of our officers in company with one of their plant officials to survey their needs of fire extinguishment and prevention methods. We set up a system of checking performance and inventory of fire extinguishing appliances and servicing methods. We submit written recommendations as to the proper methods of conducting their business to eliminate fire problems, and if they have a plant brigade, coordinate their plans in line with our own.

Throughout the year we recommend and assist, also supervise, fire prevention activities both by appearing at their premises with our local fire department apparatus and testing their appliances, conducting inspections and conferring with plant officials and employees. We have each plant compete with each other insofar as their safety and fire prevention measures are concerned. We acknowledge by letter the results with praise for the winner and a come-on build-up for the losers.

We invite plant officials to our department, meet them in social gatherings, lodges and service clubs. We don't bore them with talk about fire hazards in their plants, but let them approach the problem themselves. As a matter of fact, a great many of these plant officials attend these gatherings to make the same contacts as we.

G. Napoleon Guevin, Chief, Manchester, N. H.: We have an established monthly inspection of all hazardous commercial buildings and industrial plants. The larger plants are directly connected with our fire alarm system. We also instruct private fire brigades in fire fighting.

I believe that regular tours of inspection, stressing the importance of eliminating hazardous conditions, are the most important means of obtaining the greatest benefits in industrial fire protection. Repetition and experience are the best teachers.

Walter L. Hydaker, Chief, Lima, Ohio: We have one officer who is permanently assigned to cooperate and advise the large industries of our city in fire protection and prevention.

Members of the department continuously make inspections under supervision of company officers, and I make a trip through these plants at least four times a year. These trips are made after contacting top officials, and on many occasions these same officials accompany me through their plants.

I am a firm believer in plant brigades and we encourage the extension and training of this type of personnel. It pays off here in Lima as we have had a total industrial fire loss of only $19,954 in a five-year period in our ten major factories.

Zephrin F. Drouin, Chief, Lewiston, Maine: We make inspections with safety engineers of the various factories and recommend improvements depending on conditions found.

We frequently check equipment such as extinguishers, pumps, etc., and aid in the training of fire brigades.

We take added interest in our industrial plants and frequently offer our services. We have been called to some twenty-two fires in two years in our large industrial concerns which have their own fire equipment and trained fire fighters. We'd rather be called to aid in the suppression of fires in their infancy rather than take part in them later. This is one of the

HERE IS THE TOPIC

1. **In what ways do you cooperate with large industries in your city to provide better fire protection?**
2. **Does your fire department partake in fire prevention activities with large industries?**
3. **Are you called upon by these industries for professional advice, such as recommending the proper type of fire fighting equipment to protect special hazards, recommending fire prevention measures, etc.?**
4. **In what other ways do you believe such cooperation can be extended beneficially?**

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reasons why fire losses are kept to a minimum for a city of this size.

Donald J. Kelley, Chief, Burlington, Vt.: I try to have management appoint one of their men chief of the plant fire department and give him extra money for the extra job. Then we train that man at our drills and also assist him in organizing the men of his plant into a department. He trains his own men, puts various extinguishers where he feels they should be and corrects any wrongs he can find.

Our fire inspectors work with the plant chiefs and our drill master pulls unknown fire drills in cooperation with plant owners.

We assist in any way possible, even to the point of asking for assistance from the insurance companies.

To extend the cooperation of plant fire brigades, I believe the following should be considered:

1. Extend invitations to plant fire departments to work out with regular firemen.
2. Give fire badges for plant firemen to wear.
3. Take group pictures of plant firemen.
4. Allow plant firemen to climb aerial ladders and use regular equipment.
5. Install plant fire alarm system with plant fire chief and men controlling small fires like electric motors, small rubbish, with a city fire officer to stand by.
6. Arrange small parties for plant fire department (this should be done by management).

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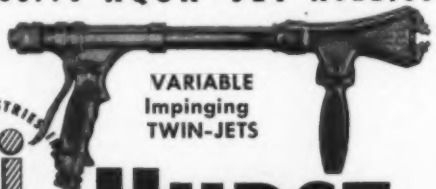

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Leo J. Urbanski, Chief, Saint Joseph, Mo.: Full cooperation is accorded all industries with regard to fire protection.

We participate in fire prevention activities with industry. We have a full-time chief of the Bureau of Fire Prevention who makes monthly inspections and makes all recommendations for the prevention of fires.

The Chief of the Fire Department advises on all fire fighting equipment to be used by industry.

John R. Butz, Chief, Allentown, Pa.: We cooperate with the large industries by visiting them four times a year and giving them recommendations which will be to their benefit. We have a Bureau of Fire Prevention with four inspectors.

We have been called in a few times to help them plan their fire prevention activities.

Good fellowship and cooperation can go a long way towards fire prevention for these industries. We visit these companies and sit down with them and explain the different hazards and the prevention of same. We explain the loss they will have if they don't have the proper fire fighting equipment. No fire—no loss is a gain to any industry.

W. H. Hazell, Chief, Hutchinson, Kans.: We make frequent inspections, often take off-shifts and their officers through these plants to familiarize ourselves with buildings and the arrangements within them.

Our Inspection Department often makes fire prevention talks and holds demonstrations for employee groups.

We have been asked to help select locations for hydrants, advised on the amount of hose and extinguishers needed and are called upon when a new machine or process is installed to assist with fire prevention and safety measures in connection with them.

We invite industries to attend fire schools, encourage plant fire deartments and help train them so their first aid fire protection will be adequate.

E. H. Aiman, Chief, Glendale, Cal.: We assist in organizing fire brigades in our factories. We give talks and show pictures on fire prevention. We have made surveys relative to the installation of alarm systems, private fire hydrants, etc., and give demonstrations on the proper use of extinguishers.

We believe it is good practice to establish and maintain good public relations between industry and the fire department.

F. L. Crouse, Chief, Huntington, W. Va.: We cooperate in every way possible with the industries in our city. We are called upon by these industries to work out different things that might help them and the city fire department. We have made a study of the hazards in the plants so that we will know how to proceed in the event of a fire.

We teach their men how to use the equipment they have in their plants and also how to use hose lines. We also try to build up better relations between the plant brigade and the city fire department.

W. G. Wandras, Chief Engineer, Kearny, N. J.: We act in advisory capacity with the industrial plants in our city, and also through our fire pre-

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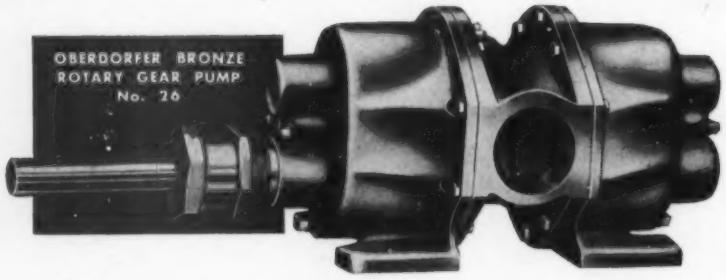

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HERE IS THE TOPIC FOR THE NEXT ISSUE

1. Is fire apparatus given the right of way in heavy traffic areas, in passing red lights and going down one-way streets against traffic as the shortest means of getting to the fire?
2. Is the rate of speed regulated upon going to a fire? If so, what speed?
3. Who is responsible in the event an accident does occur? How is the driver protected?
4. Do you have fire lanes and what protection do you get from the police department when responding to fires in these fire lanes?
5. Is parking restricted to one side on said fire lanes, or is parking permitted on both sides?

vention code. We also pass on to them new ideas and information we receive with regard to their particular problems. We also assist in training their company fire departments.

Almost all of our industries call on us for help in solving their fire prevention problems. We have been of great assistance to almost all of the concerns in our municipality. By sitting in conference and looking over the situation we have been able to solve ninety-eight per cent of their problems.

I believe cooperation can be extended by frequent inspections of the plants, and by asking their cooperation in a friendly way. If this is not forthcoming, we follow through with legal means to enforce the fire code. After all inspections, recommendations are made to the owners of the plants inspected. The chief of the fire department, or the superintendent of the fire prevention bureau, should be a member of a service club, such as the Kiwanis. Most industries are represented at these clubs and the social relations and friendship established there make the cooperation asked for much easier to get. All fires large or small are carefully investigated, and recommendations are made to the owners as to what should be done to prevent a repetition of same.

A. McC. Marsh, Chief, Columbia, S. C.: We encourage the installation of automatic sprinklers or an automatic fire detecting system which would be connected to a fire alarm box and the services of a plant watchman for nights, holidays and weekends.

We partake in fire prevention activities with large industries by making inspections of plants in company with plant officials, talks to employee groups and the distribution of fire prevention literature.

We are often called upon for professional advice. Before a plant begins operation, the manager or a responsible representative calls upon the fire department for advice and sugges-

tions to meet the hazards that will be involved through normal operations. In addition, we advise and make surveys on the required fire equipment and extinguishers, safety for employees, isolation of hazardous locations and control and storage of flammable and toxic liquids.

Excellent results could be had if the plant manager and fire department officials were at a complete understanding of the nature of the hazards involved, how best to cope with them and the inevitable result that could be expected in the event of fire. Further benefit could be derived if this information were passed on to employees.

Marvin K. Evans, Chief, Lynchburg, Va.: We train key men in fire fighting and recommend equipment needed. We also partake in fire prevention activities with the large industries of our city.

I believe much can be accomplished by training employees in fire prevention with the aid of films and literature, by inspections, and by the detection and elimination of fire hazards.

Leonard A. Petrucelli, Chief, Meriden, Conn.: We make periodic inspections to help eliminate or minimize all causes of fire. We encourage the organization of plant fire brigades and help with their training. We make suggestions to plants for bettering their fire alarm facilities and water supplies, namely, sprinkler and standpipe systems.

Romey L. Rudd, Chief, Fort Smith, Ark.: We inspect plants and make recommendations and they cooperate with us. We also take part in fire prevention activities with the plants.

If we get the cooperation in the future that we have in the past, we will do very well.

Steve Taylor, Chief, Boise, Ida.: We cooperate with the large industries in our city through inspections by qualified inspectors. We have always enjoyed fine relations with these plants.

We take part in fire prevention activities and in addition, have been called upon by the industries for professional advice.

S. D. O'Conor, Chief, Beaumont, Tex.: We make inspections of the fire fighting equipment of plants and instruct employees in fire prevention and fire fighting procedures, and make recommendations in writing for such improvements as we deem valuable to them.

If large or small industrial plants will cooperate with the fire department much good will be done. Unfortunately many of them do not want you on their premises since too many hazards will be found which will take money to rectify. For some reason, many of them prefer to take a chance on a fire putting them out of business, rather than spend a little money to make the plant fire-safe. Many of them do not want to take time out to have their employees instructed in fire prevention work.

Gerald M. Fallan, Chief, East St. Louis, Mo.: During Fire Prevention Week of this year, the City Council of East St. Louis passed an ordinance establishing a Bureau of Fire Prevention. One of the principal features of this ordinance was the provision for setting up a training program for the various industries located in or near the city. By this method it is hoped

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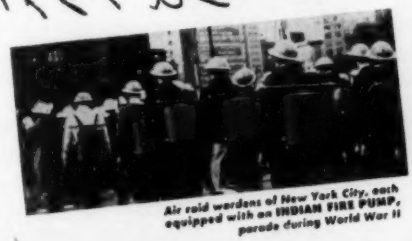

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to have fire brigades trained and ready to act not only before the arrival of fire companies, but able to assist the department on arrival. The local industries have not only assisted the department but are now planning to set up an advisory council, using their safety engineers, together with representatives of the State Inspection Bureau, adjustment bureaus, insurance companies, etc. This advisory council will cooperate with the Fire Department and the Bureau of Fire Prevention in all plans that tend to make a better and safer city in which to live and work.

Fred A. Steffens, Chief, East Cleveland, Ohio: We cooperate with large industries in our city mainly through inspections, advice and recommendations for better fire protection and by making friends and not enemies of the persons responsible.

We cooperate in fire prevention matters only through the use of posters.

Fire prevention and protection cooperation with industries can be extended beneficially by making talks to the employers and employees and by making use of films on fire prevention and fire protection and fire results when protection is used and when it is not used; also by the use of posters displayed in prominent places, especially in washrooms and locker rooms.

C. W. Wyrick, Chief, Greensboro, N. C.: Our department works in every way it can with the industrial plants in our city to provide better fire protection for them.

We work with these plants in trying to prevent fires and they, in turn, try to do whatever is asked of them. We are often called upon to help them choose the best fire fighting equipment for the hazards they encounter.

In order to prevent fires and the loss of lives in industries, fire prevention should be taught and carried out in all plants. The fire department will receive the cooperation of the plants when it proves that it has something to offer.

Thomas H. Shipman, Chief, New London, Conn.: Our State has several types of factory inspectors plus those maintained by the insurance companies. On several occasions we have found that the opinion of our inspectors on certain hazards and their protection were not in accord with those of the state and insurance inspectors.

In order to have the best relations possible between all parties concerned, this department confines their inspections to violations of local ordinances only.

We are called in occasionally to advise the occupants on the proper types of extinguishers and special hazards, but in each case we advise them to further check with their regular inspectors.

We have never participated in fire prevention activities with our factories in the past, but intend to do so under the new Civil Defense setup.

Earl R. McDaniel, Chief, Lexington, Ky.: We work hand-in-hand with the industries in our city. Our Fire Prevention Bureau conducts fire prevention and fire safety classes with fire drills for all employees.

We make talks to employees on fire prevention on their job and urge them to also carry it into their homes.

Our Fire Prevention Bureau approves all plant protection equipment and fire prevention measures.

I believe the most important thing to do to gain the cooperation of industry is to conduct a good public relations progam and to give the men in the fire service better training so as to better sell fire safety and fire prevention. We have a strong fire prevention ordinance, but find it pays off more to sell fire prevention and safety than to force it. Once a man is sold, we have very little trouble with his plant.

Lisle L. Hadlock, Chief, Ogden, Utah: This department has always helped on any problems which arise in large industrial plants, namely building programs, fire drills, protection for hazardous processes, etc.

I believe cooperation between industry and the fire department can be extended by requesting that all changes made in the plants be reported to the Fire Prevention Bureau. The fire department should make periodical checks with the plants to discuss the latest methods of fire prevention.

Questions and Answers

Static Head

To the Editor:

In "Fire Service Hydraulics," in Chapter 3 entitled "Velocity and Discharge," on page 32, you state:

"When using formula A (velocity in feet per second) $= 8\sqrt{H}$ it must be remembered that "H" is the head equivalent (in feet) of the pressure at the nozzle when the water is flowing. Friction loss in hose lines, etc., is not considered. Thus, if a head of water, created for instance by an elevated tank, feeds a line of hose to which a nozzle is attached, the head cannot be used in calculating velocity of water from the nozzle, for there will be a loss of head due to friction in the hose line. The head equivalent to the nozzle pressure when the water is flowing must be used."

I would be grateful for a more detailed explanation of the above passage.

C. R.

Answer: In explaining the question you ask, it should be borne in mind that where the head of water is given in a tank, this is the head while the water is at rest. Assuming you have a riser connected to the tank, and possibly a hose line attached to an outlet, you will have the total head represented by the elevation of the water at the nozzle when no water is flowing. However, as soon as water starts to flow, then the head is reduced by friction loss in the pipe, in the outlet on the riser and in the hose line, so that you will have at the nozzle a resultant head equal to the initial head minus friction loss.

On the other hand, when you are figuring for velocity from the nozzle which

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PLATE 116A

The number of repeat orders from Fire Departments all over the country have proven the value of this policy maintained by Powhatan Products.

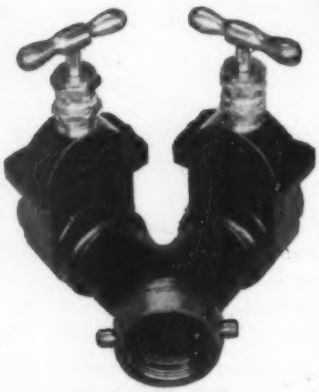


PLATE 105

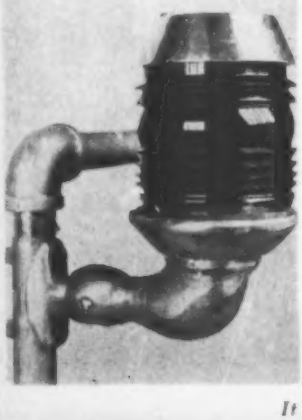
The experience we have gained over these many years, plus the engineering skill we are able to marshal, makes Powhatan eminently able to take care of any requirements you may have.

POWHATAN BRASS and IRON WORKS

RANSON, WEST VIRGINIA

Phones 93 & 94 Charles Town, West Virginia

Established 1892



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RAIL LIGHT

BRILLIANT — PENETRATING

360 Degrees of RED LIGHT

This genuine fresnel light shines like a lighthouse beacon! It has the very same type of lens. Here is the answer to ALL AROUND fire truck protection.

Ball and socket bracket permits four different mounting positions on vertical or horizontal hand rails. Mounted on the horizontal rail, it will clear ladders and hose. Aerial trucks need two to a side.

Use them in pairs. Alternating flasher operates 21-32 CP bulbs.

$30.00 a pair with alternating flasher.

$16.00 each with 50 CP bulb and flasher.

ARGUSLITE CO.

BLUE RIDGE SUMMIT, PENNA

is flowing, you use a pitot gauge to determine the pressure right at the outlet while the water is flowing. Thus you get the actual pressure at the nozzle, irrespective of the length of hose line through which water is flowing, or through any piping which may be in line.

However, in ordinary fire department problems where the head is given, and we are solving for nozzle pressure at a nozzle, we do not ordinarily take into account the friction loss in the riser, but assume that the pressure delivered by the head of water in the riser will be available at the outlet on the riser. From this point on we calculate what the nozzle pressure would be, what the flow would be, or what the velocity would be, based upon the pressure at the outlet on the riser.

It will be appreciated that this is not entirely correct as there is some friction loss in the riser which reduces the effective head. It is a small factor, however, and is normally overlooked.

Engine Pressures

To the Editor:

I would appreciate assistance on the following questions:

1. Is net engine pressure, when at draft, determined by adding together pump gauge pressure and negative pressure?

Example: Vacuum gauge indicates 13-in. Hg. 13 in. Hg. $\times$ .49116 pounds equals 6.38 pounds negative pressure. Thus 150 pounds E. P. plus 6.38 pounds negative pressure equals 156.38 pounds net engine pressure (.49116 pounds represents weight of 1-inch of mercury).

2. In example 1, is the 150 pounds gauge pressure called "relative engine pressure?"

3. In example 1, is the 6.38 pounds negative pressure also called "absolute pressure?"

4. Knowing that pump gauges are set at zero when actually registering 14.70 pounds, which is normal barometric pressure at sea level, would it be correct when determining absolute net engine pressure, and using the figures set forth in example 1, to employ the following method.

Engine gauge pressure..	150	pounds relative
Barometric pressure.....	14.70	pounds absolute
Negative pressure.....	6.38	pounds absolute
Total absolute engine pressure	171.08	pounds

A. L. R.

Answer 1. When drafting with a lift, net pump pressure is the pump discharge pressure plus the pressure equivalent to the lift, plus the friction loss in the suction hose. When drafting from a hydrant, net pump pressure is the pump discharge pressure, less the pressure of the suction line at the pump.

Answer 2. The pressure as indicated at the gauge at the pump is commonly known as "pump pressure."

Answer 3. Absolute pressure is pressure above zero barometric pressure. If the negative pressure, or suction pressure on the suction gauge, is 6.38 pounds,

then the absolute pressure will be 14.7 minus 6.38, or 8.32 pounds.

Answer 4. If a pump is delivering water at discharge pressure of 150 pounds, and if the barometric pressure is equivalent to 14.7 pounds, then the absolute pressure will be 164.7 pounds.

But this doesn't mean anything. No pump can produce a perfect vacuum, namely, 14.7 pounds on the suction side.

Relay Layout

To the Editor:

In a recent examination in our city, the following question was asked:

Two engines are to be placed in a hose layout which must extend 3,000 feet from the source of supply to the nozzle. If parallel lines of 2½-inch hose are to be used between the first and second engines, and a single line of 2½-inch hose from the second engine to the nozzle, approximately how many feet from the nozzle should the second engine be placed? (A) 400 feet; (B) 500 feet; (C) 600 feet; (D) 800 feet.

J. W. S.

Answer: With regard to the problem you state, the distance from the second engine to the nozzle is approximately 650 feet. Thus Answer C given in the question would be nearest to the correct answer.

The rule for placing engines in relay layouts where parallel lines are used between the two pumpers and a single line from the second pumper to the nozzle is as follows:

In a relay layout where parallel lines of 2½-inch hose are stretched from the first to the second engines, and a single line of 2½-inch hose, from the second engine to the nozzle, the length of the single lines found by dividing the total length, that is the distance from the first engine to the nozzle, by 4.6. The balance of the stretch is then made up of parallel lines. In the problem you give, 3,000 ÷ 4.6 gives 652 feet, or 650 feet approximately. This is the length of the single line from the second engine to the nozzle. The stretch from the first to the second engines will then be 3,000 — 650, or 2,350 feet.

Bibliographies on Fire Technology

The Southwest Research Institute, San Antonio, Tex., has released the first of a series of bibliographies on fire technology. It covers Petroleum Industry Fires and includes "the collective experiences of those operating in the several segments of the Petroleum Industry in fire prevention, protection, and extinction."

The work summarizes the preliminary literature available on fires in the Petroleum Industry as related to production, refining, distribution, storage, handling and utilization. It is presented as a public service by the Division of Fire Technology of the Institute. The twenty pages of text list hundreds of references. This bibliography is edited by Wayne Kalenich.

The Institute plans to publish two additional bibliographies—one relating to Fire Resistant Materials and the other to Dust Explosions. Other fields of research are under consideration.

Insert Shows Floodlight Elevator in Raised Operating Position

EMERGENCY FLOODLIGHT TRUCKS

DeLuxe CUSTOM BUILT EQUIPMENT with or without the FLOODLIGHTING FEATURE, All Steel Enclosed

THREE - MODELS

THE SENIOR (3 ton Chassis, 175" Wheel Base)

THE STANDARD (2 ton Chassis, 158" Wheel base)

THE NEW X-L ECONOMY UNIT (1½ ton Chassis, 158" Wheel Base

All Models carry complete First Aid and Salvage Equipment as required by the customer.

The SENIOR MODEL—most suitable for cities, is equipped with exterior and interior compartments and seats for the crew. Five built for the City of New York; one with portable floodlighting equipment and four with 10KW power take off driven generator and elevator controlled floodlights. Three built for the City of Philadelphia, with 10KW elevator controlled floodlights.

The STANDARD MODEL—for the average Fire Department, with or without elevator floodlights, equipped with exterior compartments, and the interior equipped with mounted stretchers and seats for the crew. This model in service in many Fire Departments for over 10 years.

The NEW X-L MODEL—provides maximum facilities at minimum cost.

Write for detailed construction and electrical specifications, photographs and prices and state your requirements.

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TRUMPET UTILITY BAR

Utility bars are not all alike. Careful development in design has made the "Trumpet" outstanding for fire fighting, rescue, salvage work. Provides unusual leverage — gains entry where others won't. Does more jobs faster.

"Trumpet" utility bars are forged from Hi-carbon steel and flame hardened for unusual strength and durability. Now available for shipment out of stock. See your Wooster Brass representative or write direct.

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MANUFACTURERS OF A COMPLETE LINE OF DISTINCTIVE FIRE FIGHTING EQUIPMENT

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FLAMMABLE LIQUID
FIRES!

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AER-O-FOAM ACTS QUICKLY...
STOPS LOSSES

In a matter of seconds Aer-O-Foam forms a thick, tough, long-lasting, air-tight blanket of foam that snuffs out flames . . . insulates threatened areas . . . prevents flashbacks.

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FOAM SYSTEM INC.
WEST CHESTER, PENNA.

Obituaries

Chas. G. Durfee Dead

Charles G. Durfee, Vice President and Member of the Board of Directors, Pyrene Manufacturing Company, Newark, New Jersey, died suddenly on November 13 at Los Angeles, California, where he was attending a meeting of the American Petroleum Institute. He resided at 130 Sherman Avenue, Teaneck, New Jersey.

The Late Charles G. Durfee

Mr. Durfee was widely known in chemical, engineering and fire protection circles. Following his graduation from Sheffield Scientific School, Yale University, in 1918 with a degree of Ph.B. and in 1920 from the Yale Graduate School with a degree of M.E., he joined the New York Edison Company in New York City as a combustion engineer. From 1921 to 1925 he did market analysis work for the sales department of Westinghouse Electric and Manufacturing Company in New York City and San Francisco, California. This was followed by two years with the Society for Electrical Development, Inc., in New York City.

In 1928 he joined the Pyrene Manufacturing Company as a sales engineer. In 1930 he became Manager of the Systems Department and from 1938-45 served as Assistant to the Vice President in charge of sales. He was elected to the Board of Directors in 1944 and in 1945 was made Director of Fire Protection Engineering. In 1948 he was elected to the Vice Presidency in charge of engineering. He was also President and Director of Chemical Concentrates Corporation, Fort Washington, Pennsylvania, a Pyrene subsidiary.

Chief Daly of Toledo Dies

Taps sounded for Patrick J. Daly, since May, 1946, head of the Toledo Fire Department. He succeeded to that post upon the death of Chief Fred T. Schlorf, under whom he served as chief deputy.

Patrick Daly took what he thought was a 'stop-gap' job with the fire department in May, 1909, but he remained for over 40 years, and even fought for the privilege before the Ohio Supreme Court.

In 1943, after 37 years of service, during which he advanced to the rank of deputy chief, a local ordinance forced Chief Daly to retire on his 65th birthday. He refused to quit and sued to be restored to his job. Two months later the Supreme Court ruled the city ordinance in conflict with a State Civil Service provision and Chief Daly went back into uniform and collected $645 in back pay. As a result, several other firemen who had been retired under the 65-year retirement rule, returned to their positions.

Three years later, at 68, Daly emerged top man on the civil service list and was appointed Chief. He was often referred to as the first "administrative head" of the fire department. He appeared at major blazes but he left command to his deputies.

Chief Daly lived to see the Toledo Fire Department become one of the foremost in the nation. He instituted a program for periodic retirement and replacement of equipment; installation of 2-way radio on nearly all fire apparatus; activation of the department's drill school at Station 23, and inauguration of an improvement program that would, he hoped, create a new fire headquarters at the Civic Center.

During his four decades with the department, Chief Daly served at only two fire stations, No.'s 3 and 7. It was while a hoseman and later lieutenant at Station 3, that one of this Journal's editors as a lad first knew him, and 'rolled' with him.

Chief Daly was prominent in local civic organizations and was a member of the International Association of Fire Chiefs, and Ohio Chiefs' association.

Persons in the News

Father and Son Combination!

Fire fighting seems to run in the blood of some American families. A case in point is C. M. Williams, present chief of the St. Louis Park, Minn., Fire Department, who has stepped into the boots of his illustrious father, J. S. Williams.

Ex-Chief J. S. Wiliams (Left), and Chief C. M. Williams

The latter was elected chief of the department in 1891, when it was organized. He served as its volunteer fire chief until 1930 when he was appointed paid chief by the Village Council, later going under civil service. He held that position until 1946, when he retired.

In 1947 civil service examination for Chief was held, and C. M. Williams was appointed to the post.

The present Chief Williams is secre-

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Write for Bulletin 64-F.

STRONGER because of "pressure proof," extra-tough jackets that resist heat, abrasion, abuse . . . specially compounded tubes that are non-acid forming, won't dry out or become brittle and crack.

EASIER FOLDING qualities as a result of new standards of design and construction . . . providing greater flexibility, flatter folding, more compact storage, easier handling. Visual proof of Quaker's easy-fold construction is illustrated above.

Make sure that you get these advantages in the fire hose you specify. Insist on Quaker! If you are not being serviced by a Quaker fire hose distributor, write direct to:

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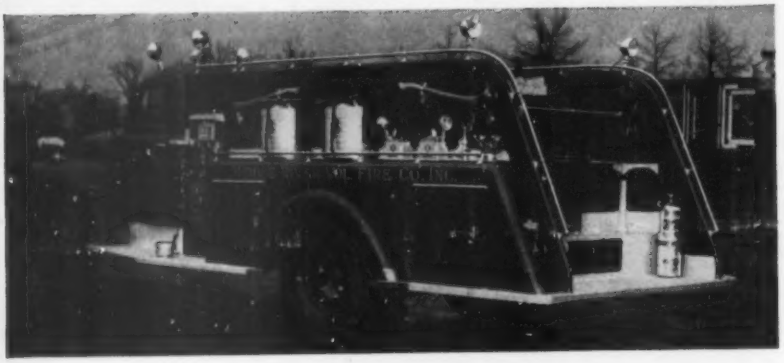
FOR ALL MUNICIPAL PROTECTION

H & H FIRE APPARATUS



AN UNBEATABLE COMBINATION

CHAMPION PUMP and H & H STREAMLINED FIRE APPARATUS MIDDLE RIVER, MARYLAND, can be complimented on the purchase of this modern, streamlined 750-gal. pumper. You'd never guess it carries 800 gals. of water. With electric booster reels and 500 ft. of 1½" hose and dependable midship Champion pump, it is a formidable piece of apparatus ANY town or city could be proud of. Carries 1200 ft. of 2½" also, together with the many usual items contained on BIG pumpers. For tops in self contained water carrying pumpers—come to H & H. Demonstrators available both for demonstration and for sale. Light trucks, squad cars, or special designs submitted on request.

SPECIALIZING IN WATER CARRYING FIRE APPARATUS
THAT DOESN'T LOOK LIKE A TANK TRUCK

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tary of the Minnesota Fire Chiefs Association and Minnesota vice-president for the Great Lakes Division of the International Association of Fire Chiefs.

St. Louis Park, incidentally, has grown from a population of about 500 in 1891 to 27,000 in 1950.

Commissioner Elmer Ulrich Gets Defense Appointment

Elmer F. Ulrich, Commissioner of Fire, Grosse Point, Mich., has been appointed a member of the Civil Defense Technical Committee on Fire by Michigan's Governor G. Mennen Williams. Arnold C. Renner, Chief of the Fire Bureau of the Michigan State Police, is chairman of the committee.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of November, 1950.

Month Ending November 30, 1950

Juneau, Alaska—The Alaska Native Service Hospital destroyed.
Lodi, Cal.—Western Pacific wharf house destroyed.
Monterey, Cal.—Westgate-Sun Harbor Packing plt. destroyed.
Salinas, Cal.—Salinas planing mill destroyed.
Poplar Grove, Ill.—Business bldg. occupied by Hill Implement Co. store, offices, repair shop and stockroom and residence of William LeCroix family, destroyed.
Manhattan, Kans.—Bldg. occupied by transmitting equipment of Kansas State College's radio station KSAC damaged.
Summit, N. J.—Four dwellings, 12-16 Glenwood ave., destroyed.
Schuylkill Haven, Pa.—Parkway Restaurant destroyed.
Clarksville, Tenn.—Truck and two trailer trucks containing 35,000 gallons of liquid asphalt owned by Finley Construction Co. and nearby dwelling of Carter Baggett, destroyed. Asphalt exploded while being pumped from railroad tank car on Tenn. Central Railroad into distribution tanks.
Fairbanks, Alaska—Bethel Hospital destroyed.
Greenville, Ala.—No. 1 sawmill plt., green-lumber chain and part of green-lumber shed of W. T. Smith Lumber Co. destroyed.
Toronto, Ont.—Three unit wooden bldgs. owned by Edmund Hund Lumber Co. destroyed; Simpson Planing Mill and Hillock Lumber Co. damaged.
Los Nietos, Cal.—Pacific Clay Products Co. plt. damaged.
Woodbridge, N. J.—Westfield Airport's hangar, nine planes, destroyed.
Gowanda, N. Y.—The horse barn of the Thomas Indian School on the Cattaraugus Reservation, destroyed.
Lancaster, Pa.—Three bldgs. occupied by Stephens Engineering Co., Service Supply Construction Equipment Co. and Aluminum Window Co. destroyed.
Aurora, Ill.—Bldg. occupied by five business units destroyed. Defective oil burner.
Council Bluffs, Ia.—Business block, one of occupants Murphy Drug Co. badly damaged.
Dallas, Tex.—Two bldgs. occupied by Spiegel's Ready to Wear and Lanes Shoe Store, destroyed.
Napa, Cal.—Home of Fraternal Order of Eagles and a furniture store, damaged.
Chicago, Ill.—Three bldgs. owned by City of Chicago, occupied as follows: Garage of C. Halfpap, Klein's Sporting Goods Store, fish store of C. Halfpap, damaged. Spontaneous ignition of rags.
Central City, Pa.—Ritter Theatre destroyed.
New Castle, Pa.—Alexander Bldg. occupied by Coney Island Restaurant and seven apts. damaged. Adj. Capitol Grill damaged.
Eatonville, Wash.—Clay City brick plt. destroyed
Labelle, Que.—Bobbin factory destroyed.
Lamar, Col.—A food store, two sporting goods shops, a pool hall, a flower shop and a new, unoccupied downtown bldg., damaged.
Beres, Ky.—Bldg. occupied by food store, drug store, offices of three physicians, destroyed.
St. Paul, Minn.—Bldg. of Natl. Lead Co., St. Louis Park, damaged.

Whiteville, N. C.—Dry kiln and lumber of Sledge Lumber Co. plt. destroyed.
Cleveland, Ohio—Alhambra Bldg. damaged.
Philadelphia, Pa.—Six whses. occupied by Prymar Motor Express Co., W. & G. Specialties Co., G. Johnson Auto Parts Co. and Philadelphia Truck Refrigeration Co., destroyed.
Los Angeles, Cal.—Franco American Baking Co. plt. damaged.
Redwood City, Cal.—Johns Manville Products Corp., corrugated iron plt., damaged.
Chicago, Ill.—Welco Truckers lodge, Route 66, Downers Grove township, destroyed.
Campbell, Mo.—Entire block of business houses destroyed.
Oldwick, N. J.—Barn on farm of J. Seward Johnson destroyed.
Dayton, Ohio—Dayton Evangelical United Brethren Church destroyed. Defective wiring.
Chica, Col.—Vallombrosa Hall, resort, destroyed.
Norwalk, Conn.—Lockwood Fur Co. plt. and Norwalk Mfg. Co., makers of small tools, destroyed.
Stamford, Conn.—Business bldg., occupied by the Colonial Grill, three other stores and a secretarial school, damaged.
Dixon, Ill.—Kline's Dept. Store damaged.
Minier, Ill.—Bartelmay Implement & Parts Co. destroyed.
Tipton, Ind.—Indiana Box Corp. bldg., crates, cardboard boxes, destroyed. Started near furnace.
Missoula, Mont.—J. C. Penney Co.'s store destroyed.
Linden, N. J.—Grasselli Div. of E. I. Dupont de Nemours Co. damaged. Explosion.
Grand Forks, N. D.—Potato whse. destroyed.
Sandusky, Ohio—Philco Corp. radio cabinets and radio parts and White Lumber Co. bldg. destroyed.
Luxembourg, Wis.—Dalebroux general store and tavern and apts. destroyed. Overheated chimney.
Sarnia, Ont.—Bldg. occupied by British Clothing Store damaged.
Central City, Pa.—Movie house and bldg. destroyed.
San Bernardine, Cal.—Residential area, Foothills, damaged.
Wenatchee, Wash.—Automobile garage store of Wenatchee Auto Parts, destroyed.
Niagara Falls, Ont.—Bickels hardware store destroyed.
Rawdon, Que.—Pine Lodge Hotel destroyed.
San Francisco, Cal.—Rooming house and dwelling of Douglas B. Lewis, damaged.
St. Louis, Mo.—Plt. of Century Foundry damaged.
Oakridges, O[illegible]—Hotel destroyed. Overheated stove.
Litle Rock, Ark.—The Administration Bldg., Camp Robinson, destroyed. Defective wiring.
Stamford, Conn.—Diamond Match Co. whse., lumberyard and dock, three small houses and an auto destroyed. Two boys playing with stolen railroad flares and dynamite caps.
Antioch, Ill.—Office bldg. occupied by drug store, grocery store, Illinois Bell Telephone offices, a beauty shop and doctors' offices, destroyed.
Bound Brook, N. J.—R. B. H. Dispersons factory damaged.
St. Paul, Minn.—Large Midway plt. of U. S. Thermo Control Co. damaged.
Stockham, Neb.—Stockham Elevator destroyed. Spontaneous ignition.
Cleveland, Ohio—Alhambra Theatre, apt. bldg. damaged.
Dallas, Tex.—Three hand-carved merry-go-'rounds, Texas State Fair Park, destroyed.
Corsicana, Tex.—Commercial Hotel destroyed.
Woodstock, Va.—Riverside Mfg. plt. destroyed.
La Salette, Ont.—Philip Maes' back barn destroyed, filled with 25 kilns of this year's tobacco.
Palmdale, Cal.—Palmdale Elementary School auditorium destroyed.
Los Angeles, Cal.—Block long loft bldg. occupied by Pierce & Cutler Mfg. Co. and other clothing mfrs., damaged.
St. Louis, Mo.—Bldg. occupied by a tavern and rooming house damaged.
Saranac Lake, N. Y.—Two business bldgs. occupied by a drug store, children's clothing store and storage rooms, destroyed.
Frederick, Okla.—Cassidy grain elevator damaged.
Madisonville, Tenn.—The dining hall at Hiawassee College destroyed. Overheated furnace.
Jersey City, N. J.—Croxton Yards of Erie R. R. damaged.
Yorkville, N. Y.—An office wing of the Triad Tractor and Implement Corp. damaged.
Post Falls, Wash.—Post Falls Genl. Store, meat market, destroyed.
Red Bank, N. J.—Two lumber yds. and part of a television mfg. plt. of Videa Products Corp. damaged.
Burnaby, B. C.—Trufit Millwork, Ltd. destroyed.
Ottawa, Ont.—Edelson's Jewelry Store, Hunt's Candy Shop, Kiddytown Children's Clothing and Toy Center and several offices, destroyed.

"SAFETY-FILLS" end spilled-gas fires in service stations

Underwriters' approved nozzle with automatic shut-off eliminates hazardous overflow

In service stations, garages, airports and fleet servicing centers—in outdoor or indoor installations—spilled gas is a serious fire hazard.

Buckeye Safety-Fill Nozzles eliminate dangerous gasoline overflow.

Here's how: when gasoline covers the end of the spout, the formation of a vacuum causes the main valve to close automatically—even though the nozzle is manually held open—and the flow of gasoline stops immediately.

With Buckeye Safety-Fills, there is no guessing when the tank is full, even at night or under noisy conditions. Servicing is safely accomplished at maximum speed.

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Another **BOYER!** CUSTOM BUILT apparatus recently delivered to Fayetteville, Tenn.

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LOGANSPORT, IND.
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STOP WASTING HOSE!!

Fire Hose Is EXPENDABLE . . . EXPENSIVE . . . And In SHORT SUPPLY

Don't gamble your $1.60 hose against damage from mildew and rot when, for a nominal investment in a CIRCUL-AIR you can dry it QUICKLY, SURELY, SAFELY and EASILY.

CIRCUL-AIR is the patented, electrically operated HOSE DRYER which circulates prewarmed fresh air through coiled wet hose at the rate of 5 to 6 air changes per minute. It was designed to lengthen hose life; improve the appearance and functional design of new fire hoses; nd to save floor space and hard work. NO OTHER METHOD is so fast—so easy to use—so economical.

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Preston, Ont.—Four transformers at Preston's power substation damaged.
Oakley, Cal.—Daylite Super Market and adj. whse. destroyed. Faulty wiring.
Champaign, Ill.—Thompson's Lumber Yard destroyed.
Joliet, Ill.—Hobbs bldg., business block, destroyed.
Lockport, Ill.—Tavern of Charles Costa damaged.
Boston, Mass.—Three stores, Broadway business section, destroyed. Three stores damaged.
Lake Park, Minn.—Bldg. occupied by Spring Lake Park Food Market and Mark Adams drug store destroyed.
Nashua, N. H.—Kimball's Green Ridge Turkey Farm Restaurant on Route 3, destroyed.
Newark, N. J.—Apt. house, 51 Haynes st., destroyed.
New York, N. Y.—Fire starting in plastics factory caused damage to three five-story bldgs. and burned four persons, one serious. Fire officials said the blaze started in the fourth floor factory of Handles, Inc., a firm making handles for cutlery from celluloid-like plastic. The fire spread to the bldg. next door at 55 Murray St. and to another at 57 Warren Street.
Watertown, N. Y.—At nearby Belleville, the C. F. Golding Grocery, the post office, the fire house and the H. D. Osborn dry goods store damaged.
Raleigh, N. C.—Girls' dormitory at St. Augustine College, destroyed.
Aiken, S. C.—Dwelling of Harold Fletcher, headmaster at Aiken Preparatory School, destroyed.
Waverly, Tenn—Bldgs. and equip. of Waverly Milling Co. destroyed.
Richmond, Va.—Monument Methodist Church destroyed.
Delavan, Wis.—Grain elevator, Mawhinney, destroyed.
Hurley, Wis.—Bldg. occupied by Showboat, Magic Bar, Club Fiesta, Fiesta Grill and apts. destroyed.
Parkin, Ark.—Business block occupied by Bernard's Barber Shop, Bogard's Dept. Store, Ritz Theatre, Helhorn Insurance Co. and Cross County Times.
Los Nietos, Cal.—Plt. of Pacific Clay Products Co. damaged. Explosion in drying shed.
Moultrie, Ga.—Three large structures—one a cotton compress and whse. and the other two fertilizer mix plts. and storage space, destroyed. The George Peanut Co. damaged. The office and storage bldg. of a sawmill two blocks away damaged.
Lancaster, Ky.—Walker Hotel damaged.
Wilmore, Ky.—Business-apt. bldg. occupied by Wilmore Post Office, Sim's drugstore, barber shop and an office and three apts., destroyed.
Cement City, Mich.—Main office bldg. of Consolidated Cement Corp. plt. destroyed.
Minneapolis, Minn.—The Tower, a residential hotel at the east edge of the Minneapolis loop, housing several businesses on the ground floor, the hotel occupying the top three stories, destroyed.
Wheaton, Minn.—Wheaton Gazette and Traverse Motor Sales Co. damaged.
Asbury Park, N. J.—Bristol House destroyed.
Cheektowaga, N. Y.—Auf Wiedersehn Restaurant destroyed.
Syracuse, N. Y.—Business-apt. bldg., So. Geddes and Putnam Streets, destroyed. Dwelling next door, damaged.
Hurricane, N. C.—Bldg. owned by IOOF and Knights of Pythias, occupied by general store of D. G. Craddock, damaged.
Braddock, Pa.—Schwartz Bldg. occupied by Dolores Beauty Shop, First Men's Clothing Store, Crystal Meat Market, Hymans Clothes, J. O. Cleaners, Jack & Jill Shop, Travis Shoe store and apts., destroyed.
Pittsburgh, Pa.—Stanton Avenue Apts. damaged.
Winnsboro, S. C.—Carolina Theatre destroyed.
Timberville, Va.—Apple packing plt. destroyed.
Charleston, W. Va.—McRoberts Tire & Supply Co. destroyed.
Clinton, Conn.—The Clinton Casino destroyed.
Chicago, Ill.—Bldg. occupied by owner, M. J. Kossack; T. Calcules tavern; J. Shapiro cigar store; Alex Food Mart, and adj. bldg. occupied by Club Majestic, tavern, damaged.
Downers Grove, Ill.—Baughan Motors, Inc. destroyed.
Rumford, Maine—Rumford Furniture Co. and bldg. occupied by Joe Constanzo barber shop, Veterans of Foreign Wars, Grant's Apparel Shop, Freddie Ponerleau restaurant and Carroll's drug store, damaged.
Tupelo, Miss.—First Baptist Church destroyed.
Kansas City, Mo.—Prairie Village Pay Less grocery damaged.
Bainbridge, N. Y.—Darnforth Block occupied by Bainbridge Dept. Store, Leadway grocery and market, George M. Skinner's law office and library and three apts. destroyed. Defective heating plt.
Augusta, Ga.—Southern Cotton Oil Co. plt. damaged.
Ironwood, Mich.—Blassner business block occupied by McLellan Variety store, Hamacheck drug store, Stern and Field men's furnishings, Coffee Shop restaurant, four law firms, beauty

shop, art studio and Knights of Columbus lodge hall, destroyed.
St. Paul, Minn.—Seven Corners Hotel destroyed.
Valley, Neb.—Rhea Implement Co. and Blue Top Tavern damaged.
Bedminster, N. J.—Dwelling of Mrs. Augustus S. Kintht, damaged.
West Long Branch, N. J.—Joseph's Restaurant, Monmouth Roads, destroyed.
Whippany, N. J.—Plt. of Industrial Resin Corp. destroyed.
Gastonia, N. C.—Eagle Dept. Store destroyed; Spindale City Cafe, Stanley's Jewelry Store, Seymour Dress Shop, Saprger Barber Shop, Peter Walker Show Shop, and Pete Quinn's Barber Shop, damaged.
Greensboro, N. C.—Wholesale Grocery whse. and office of Foster Caveness, Inc., destroyed.
Athens, Tenn.—Cleveland Chair Co. plt. destroyed.
Bristol, Tenn.—Stoots-Fleenor Motor Co. destroyed.
Knoxville, Tenn.—Bibbs County High School destroyed. Defective wiring.
Arlington, Va.—Meat refrigeration plt. destroyed. Workman's torch.

World Wide Fire News

By Roi B. Woolley

Britain Readies Atom Defense

The British government is undertaking a nationwide survey with a view to protecting strategic areas from atomic attack, it was announced early in November, by Home Secretary James Chuter Ede.

In announcing the action, it was said it would not be possible in the future, as it was in the past, to provide complete immunity against air attcks, and people were warned there would be "heavy casualties" in a future war. At the same time it was claimed to be technically feasible to provide shelters which would reduce casualties from all forms of attack.

The best types of shelters, in common use in World War II, it was reported, will again be very valuable, but a higher degree of protection is being considered for areas likely to be targets for atomic attack. Local authorities in these areas, which are not indicated, have been instructed to undertake surveys of the additional shelters required. Subsequently, the government will consider how soon and on what scale it will embark on a program of air-raid shelters, according to Mr. Ede.

* * *

Melbourne Firemen Strike Over "Buttons"

Early in October last, Melbourne, Australia, a city of 1,200,000, was without a fire fighting force worthy of the name. Its 520 firemen went on strike (October 5) and only 76 officers remained on duty.

Cause of the trouble was the refusal of the men to obey an order calling for a new press-button alarm system. If a button is not pressed every three minutes at some fire stations, and every 10 minutes at other stations, a general fire alarm is set off.

Firemen rebelled against the system and 18 were fired for their refusal to cooperate. The rest began the strike.

No serious disturbances, and no threatening fires of any magnitude were reported following the walk-out, but it was said the officers, who remained to man the equipment, were called out by some false alarms.

* * *

Maritime Industries Warned of Sabotage

American maritime industries were warned this fall that they must be on the alert for sabotage, particularly by means

— *it helps us to*

- Protect lives
- Reduce property losses
- Improve department efficiency

RESULT: an outstanding safety record"

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CANADA: SAFETY SUPPLY CO. BRANCHES IN ALL PRINCIPAL CITIES
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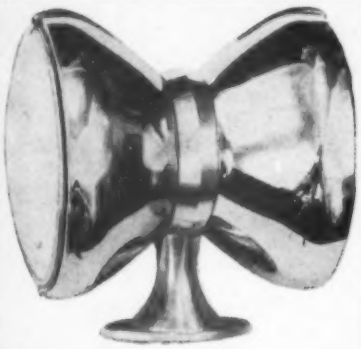

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A gleaming, chromium Beauty, 7½" in diameter that sends its RED warning front and rear at 60 times a minute. In spite of its size it is very light and easily mounted on its aluminum pedestal.

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of fire. The warning came from Joseph K. Carson, Jr., general manager of the Propeller Club of the United States, speaking before the joint meeting of the marine section of the National Safety Council and Propeller Club of Chicago.

Pointing out that fire has always been a weapon of war, the speaker stated that ports, docks, ships, shipyards and strategic cargoes face "the evergrowing menace of sabotage."

Mr. Carson outlined the pattern of sabotage followed by Communist agents, which, he said, includes delayed fires on vessels, piers, warehouses and plants; ingnition of flammable materials or liquids by agents employed on vessels, piers or plants; and damage to fire-fighting equipment and fire alarms.

* * *

California Urges Strong Sabotage Law

Amendments to California's sabotage Prevention Act to provide stiffer penalties for treasonous acts were urged before the state assembly. Assemblyman Julian Beck of San Fernandino said his subcommittee on Communism and sabotage decided to present the recommendations at the special session of the Legislature, following meetings with Los Angeles law enforcement, labor and industry officials.

The committee reportedly recommended the death penalty for acts of sabotage involving bodily injury, 20 years imprisonment for all other acts of sabotage, a six months jail term for trespassing on restricted land and an urgency clause to make the changes effective immediately.

* * *

Time-Bomber Sentenced

John H. Grant, 32, the aviation engineer who was frustrated in his scheme to time-bomb a DC-3 airliner and collect $25,000 flight insurance on his wife and children, was sent to prison in October for one to twenty years. He was denied a new trial and reduction of $50,000 bail. His attorney served notice of appeal, following his sentencing.

On August 3, a jury convicted Grant on six counts of attempted murder of his wife, two children and three crew members of the plane. No charges were filed involving the 13 other members aboard the San Diego-bound plane last April 17.

As was related in FIRE ENGINEERING, Grant fashioned a bomb of gasoline in a suitcase, set it to explode while the plane was over the ocean and very nearly succeeded in having his bomb put aboard. Just before the takeoff, however, at Los Angeles International Airport the bomb flared up in the face of a baggage handler. He was slightly burned but no one else was hurt. Grant was arrested and confessed.

* * *

Pipeline Blast Heard 10 Miles

A thirty-inch pipeline carrying natural gas from Texas to New York exploded in a farm pasture near Chatham, Va., on Nov. 3, 1950, with a roar that was heard ten miles away.

Flames shot an estimated 1,000 feet aloft from the pipe, about 500 feet of which was blasted from the deep trench in which it lay. Fortunately, nobody was injured, but some of the farm's livestock was reported casualties.

The earth in a thirty-acre circle around the point of explosion was cooked to a bricklike hardness. Much of the twisted pipe was melted. Trees within several hundred yards were almost entirely consumed by the searing fire. The earth in a wide circle had the appearance of volcanic ash.

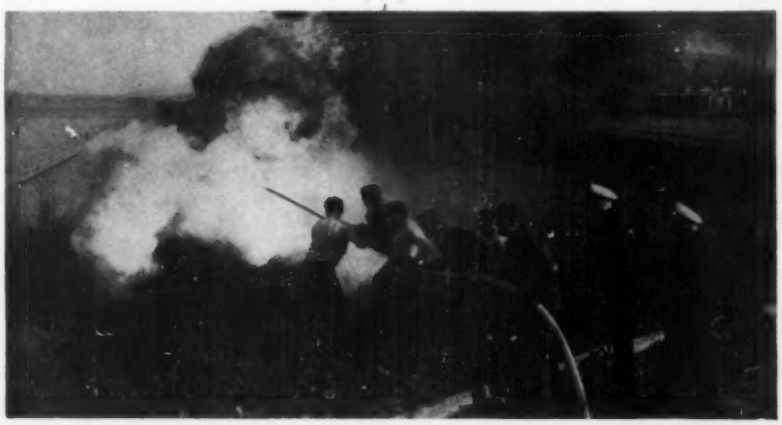
Neither the estimated damage nor the cause of the blast were reported. The pipeline is being built for Transcontinental Gas Pipeline Company.

* * *

Eleven Firemen Felled in Ship Fire

Eleven New York Firemen were knocked out by smoke on Oct. 31, as they fought a spectacular fire that raged in the hold of the South American freighter, the Rio Aquapey, on the Brooklyn waterfront.

The fire, believed started by sparks from a riveting drill, which ignited a cargo of sisal hemp in one of the ship's



Dept. of the Navy Photo

M.S.T.S. Says Sweat Ashore Means Safety at Sea

The Military Sea Transportation Service, like the Navy, doesn't believe that training in fire attack and defense ends when its seamen go ashore. Here, at the U. S. Naval Reserve Training Center, Ft. Schuyler, N. Y., an MSTS class learns efficient fog nozzle techniques for quickly subduing a blazing oil tank. The merchant seamen in action include (l. to r.) Joseph R. Sirc, EM1, USNR assistant instructor at the school; Hans Philepsen, Carpenter, USNS Kelley; Joseph D. Palmieri, oiler, USNS Kingsport Victory; Henry Bobrowski, engine utilityman of the Kelley; George J. Hunt, Jr., MMC, USNR, Instructor at the Training Center; and Thomas Spino, seaman on the Kelley. Directly behind the men are CDR Roy T. Gallemore, USNR, Officer in Charge, Training Center, and Capt. Ole Sorensen, Master, USNS "Sgt. J. E. Kelley."

five holds, while she was tied up at the Bethlehem Steel Co. pier at 27th street Brooklyn, gave off dense smoke which forced firemen, responding on two alarms, to work in short shifts, using gas masks.

Two fireboats and fourteen pieces of land equipment, with 65 firemen, directed by Chief Peter Loftus, fought the fire.

The first alarm was received about 3:04 A.M. and the fire was brought under control at 3:20 A.M. It continued to smolder for some time thereafter. Two ambulances and two police emergency trucks stood by and their crews with fire department physicians treated the fire fighters who were affected by the fumes of the burning cargo. All recovered.

* * *

Off the Tape

Cuban surrealist painter Rene Alis is his own severist critic. Rene invited friends to an exhibition of 50 of his canvases. Then he proceeded to burn them all. He said it was his answer to jokes about his work by fellow artists. The flames destroyed the work of six years. . . . The day before assassins tried to get at President Truman at Blair House, two home made "Molotov cocktails" type bombs were thrown by an unidentified man into a room occupied by 50 persons at the Puerto Rican Government Labor Office, 1881 Broadway, Manhattan. Fortunately they failed to explode. Contents of one bottle did ignite but fire was quickly smothered. . . . An American B-50 bomber was forced to dump its load of bombs in the St. Lawrence River in Canada, terrifying villagers and jolting a 30-mile area. Pilot, on a routine flight, had engine trouble—dropped three 500-lb. demolition bombs in the river near St. Andre de Kamoiraska, Que. Nobody hurt——no fires. . . . The FBI and Atomic Energy Commission issued a citywide alert at Los Alamos, N. M., for a firebug believed to have set six small fires in that atomic community. It comes as a shock to learn that "much of the scientific laboratory is housed in tightly-packed wooden structures in the heart of the community." . . . A quartermaster building at the Petawawa Army camp containing equipment for a special service brigade recruited for the United Nations at Petawawa, Ont., Canada, was destroyed by fire—damage $100,000. . . . More than 20 tons, or 800 cases, of dynamite blew up at a mine powder valut near Marlartic, Que., causing estimated damage of $50,000 in broken glass. One person injured. Sabotage suspected. . . . Former film actress Helen Chandler suffered serious facial, arm and body burns November 10 last when she apparently fell asleep while smoking in bed. . . . Thirteen airmen were killed when two Air Force planes collided over the Arizona desert near Tucson during a re-fueling operation on Nov. 16. Ten survived. Another B-50 was believed to have exploded in flight and crashed earlier in the same area. . . . The center of Rome, Italy, was rocked the afternoon of November 16 by two powerful bomb explosions. One wrecked the offices of the Republican Party, the other damaged offices of the Socialist Unity Party. No casualties, no fires. . . . An Air Force F-86 jet fighter plane crashed and burned 100 feet from a Rome, N. Y., home after its pilot bailed out. Flaming pieces of plane set fire to a barn, which burned to the ground. . . . Lightning struck the Tropical Oil Com-

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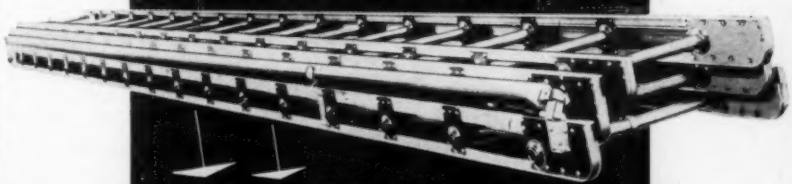

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pany steamer Opon in the Magdalena River between Puerto Berrio and Cantimplora, causing five deaths and injuring 30 persons. Some missing. Help was rushed to scene by plane. . . . An explosion at a steel works in the Ruhr center of Dortmund, Germany, blew up a building, killing three persons. . . . Charles E. Bailey 34, stunt flier, piloting a tiny acrobatic plane he had built himself, crashed to a fiery death October 29 last before 30,000 spectators, in Norfolk, Va. . . . In Stockholm, Sweden, 15 men were injured in an explosion in the Swedish Airplane Co's jet fighter factory at Trollhaettan. . . . A fire in the Templehof postal depot, Berlin, which was started by a post office worker who turned on an electric cooker to light his pipe and then forgot to turn it off, took 180 firemen 16 hours to extinguish.

With Our Readers

Origin of the Smoke Extractor

To the Editor:

In your late issue of FIRE ENGINEERING, I read with interest your reference to the origin and use of a smoke extractor. The article was written by Chief Fred J. Wells of Fargo, North Dakota.

It suggests to me that a little explanation might be of interest to you. The device did not spring from any mechanical knowledge but from a desire to find a better way. In my early experience as a fireman, I found that our greatest punishment was caused by smoke and I determined to find a remedy.

In our repair shop we had two very capable engineers, Mr. Herbert Penney and Mr. Steven Sandy. I told them I wanted them to build me a machine that would take the smoke out of basements. I said I wanted them to go over to a planing mill and see what kind of a fan they used that picks up the shavings and throws them out. They came back and admitted that the kind of a fan used at the mill could be used to remove smoke. I told them to go ahead and build a machine for that purpose.

In their planning, they found that the larger the intake, the greater displacement. They used a 14-inch flexible steel suction. That was the largest size that could be placed through a basement window. We had it tested by the engineers at the State University. It had a displacement of 5,000 cubic feet per minute.

I was not satisfied with that so I had them try two suctions, and that gave a displacement of 11,800 cubic feet per minute. So I told them to go ahead and build the machine. It is still in use. It was built in 1915.

We found that the smoke extractor was indispensable and it was placed on the running card on first alarm in all the congested districts. The Chief that followed me took it off the running card to be called when needed, but that is not the answer. If it is needed at all, it is needed as one of the first pices of equipment to arrive at the fire. The Chief who followed him put it out of service; said it gave draft to the fire.

It is most effective where a building can be opened from two opposite points. Set the extractor at one end and it takes the smoke from the further end and does not fan the fire until it has drawn all the smoke up to the point of the fire. As we used it, we set the machine at one

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If you're interested in sinking ducks (*or* putting out fires) it's high time you knew about FIREWATER.* This amazing chemical penetrant makes wet-water for 600% (that's right—six hundred per cent!) *less money than any other recognized penetrant on the market!* It's unbelievable but true —FIREWATER is a *tested* and *proved* penetrant that is used at a dilution ratio of 1:600 yet costs just $2.00 per gallon in 55 gallon drums! FIREWATER vastly increases the absorption and spreading qualities of water and is absolutely non-corrosive. *TRADE MARK

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end of the building and the crew with the hose followed in as the smoke was drawn from them until they came to the fire.

Supplementing the above, I wish to call to your attention the following paragraphs from a letter written in July, of 1932, by Senator L. A. Friedman of Nevada:

"With reference to the smoke extractor invented by Chief Ringer of the Minneapolis Fire Department, which we were discussing with you when you were here, we have been able to get some further particulars about this machine, in fact, we have personally seen a demonstration of this machine. It is a machine designed for mechapical ventilation with a capacity of displacement of 11,080 cubic feet per minute by a test made by the University Engineers.

"At the time of the Sanitary Tunnel disaster in Chicago in April, 1930, this machine was called into service after sixteen men had been given up as dead in that tunnel. The machine at that time was not fully assembled, but after two hours' work in assembly, it was driven sixty-eight miles from the plant of the builder at Kenosha, Wisc., and placed at the mouth of the tunnel, which was an eighteen foot shaft, 700 feet long. Those sixteen men had been given up for dead and the mine experts had advised sealing the mine but the Chief of the Fire Department of Chicago still had faith in this machine, which he had seen demonstrated. When the machine was placed in operation at the mouth of the tunnel within less than 20 minutes, the sixteen men came out alive. The machine continued to operate for some little time and it was found that the shaft was completely cleared and that it had drawn the oxygen out of the shaft to the extent that the fire was extinguished."

Yours very truly,
CHARLES W. RINGER

1926 W. 21st St.
Minneapolis, Minn.
Oct. 31, 1950

Editor's Note: Chas. W. Ringer was formerly Chief of the Minneapolis, Minn., Fire Department. He served as President of the International Association of Fire Chiefs in 1922-23.

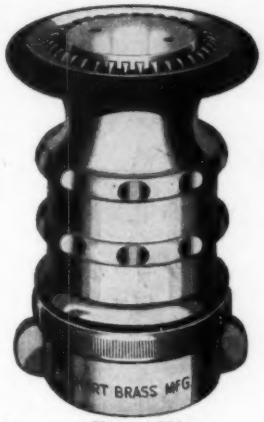
Rescue Operations at the Long Island Train Wreck

Shortly after 6:30 P.M., on Thanksgiving Eve, a speeding 12-car express commuter train on the Long Island Railroad telescoped the rear of another 12-car local train at an elevated point in the express tracks on 125th Street near 83rd Avenue in the Borough of Queens, New York. The two trains were said to be carrying 2,000 passengers, with many standing in the aisles.

It is disclosed that the motorman of the second train—who was killed in the crash, ran past two caution signals. The impact of the collision was heard for blocks and was accompanied by a blinding flash and sparks, doubtless from the shorting of the third rail. No fire, however, ensued.

The horrifying story of this tragedy—the second on the same railroad in eight months (32 persons were killed in a crash at Rockville Center, L. I., on February 17th, last), has been widely told by press and radio. What has not been made public are the operations of the

THE MYSTERY LINE



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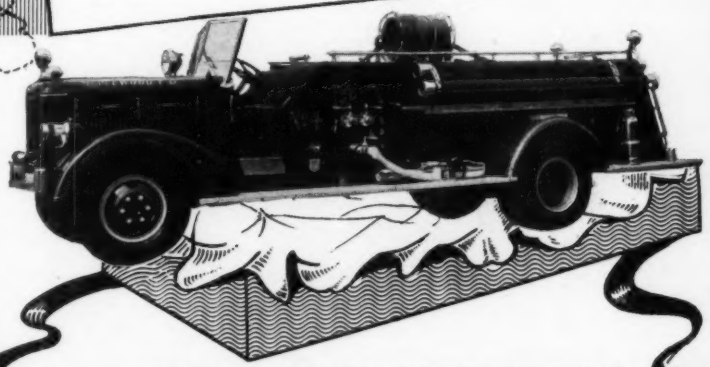

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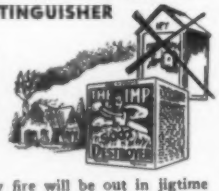

Save rushing to chimney fires—avoid slippery roofs by using IMP Chimney Fire Extinguisher. Just throw a 60c package "as is" on the hottest part of of the fire in the stove, furnace or fireplace. The chimney fire will be out in jigtime without water or chemical damage. Recommended by many chiefs who carry IMP in their cars.

ALSO—LIQUID IMP for *oil fired units*. Saves oil, money, increases heat, prevents sludge, reduces carbon deposits and is safe. You know what a fire hazard these are. Use LIQUID IMP in your own burners. 3½ oz. enough for 70 gals. kerosene or 35 gals. No. 2 fuel oil; 16 oz. enough for 5 times above quantity; 1 gal. enough for 1600 gals. #2 fuel.

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complements of the New York Fire Department following the crash.

Stripped of all embellishment here is how the department went to work*

TRAIN WRECK, 125TH ST. & METROPOLITAN AVE. STATION (BOX), 9680 NOV. 22, 1950, BOROUGH OF QUEENS

Station and Time	Remarks
9680	
6:31 P.M.	Box alarm, Metropolitan Ave. and 125th St.
6:32 P.M.	Fr. Barry Hall H&L #8 (Via 9-1024) reports wreck at Box 9680—L.I.R.R. requests Rescue Co.
10-9680-4	
6:33 P.M.	Queens, Rescue 4. Notified police for Ambulance and Aid. L.I.R.R. train wreck — 2 passenger trains — wants Rescue and Ambulance—Many dead and injured and Power shut off on all tracks in vicinity.
6:40 P.M.	Notified Roett L.I.R.R. Power Director, to shut all Power off on all tracks at Metropolitan Ave. and 125th St. Mr. Roett reports all Power off.
7-9680-126	
6:43 P.M.	Sp. call L 126 to scene.
5-9680-298	
6:43 P.M.	Eng. 298 to scene.
6:43 P.M.	Request 51st. BC (Batt. Chf.) for Brooklyn Rescue Co. and Searchlight and Police Help.
10-9680-2	
6:44 P.M.	Res. 2, Brooklyn to scene.
9-9680-24	
6:45 P.M.	Searchlight 24 to scene.
6:45 P.M.	51 BC requests another H&L
7-9680-127	
6:48 P.M.	L 127 to scene.
6:52 P.M.	Chief Connelly requests Rescue Co. 3.
10-9680-3	
6:53 P.M.	Rescue 3 to scene — from Bronx.
22-9680	
6:58 P.M.	Second alarm. Request Chief Waldron.
7-9670-151	
6:59 P.M.	L 151 to scene, Request Chief Waldron.
7:02 P.M.	51 BC requests Fire Dept. Ambulance and F.D. Doctor.
666-9680-2	
7:03 P.M.	Ambulance 2 to scene. Notified a doctor on fire duty, Dr. Rosenfeld.
17-127-150	
7:08 P.M.	L 150 locates in L 127.
9-9680-22	
7:10 P.M.	Searchlight 22 to scene.
7:13 P.M.	Dispatcher Kostka reports Chief Loftus requests Res. Co. from Manhattan, via radio.
10-9680-1	
7:24 P.M.	Rescue 1 from Manhattan to scene.
15-315-317	
8:32 P.M.	E 317 locates at E 315.
9-9680-94	
9:40 P.M.	Field kitchen to scene. Request, Chief Loftus.
10:19 P.M.	Request Chief Beebe for Gas and Oil Wagon.
9-9680-14	
10:19 P.M.	Gas and Oil Wagon to scene.
10:22 P.M.	By orders Chief Loftus, ordered Queens General (Hospital) to send body bags back to Sta. 9680.
17-143-107	
10:33 P.M.	L 107 locates at L 143.
[November 23]	
1:50 A.M.	E 299 first company to tap back from wreck.
1:50 A.M.	Rescue 1 going back.
1:52 A.M.	E 275 back.
1:57 A.M.	E 357 back.
3:04 A.M.	E 298 back.

*FIRE ENGINEERING is indebted to Chief of Staff and Operations Frank Murphy; Deputy Chief in Charge Bureau of Fire Alarm Telegraph Thomas P. O'Brien; Chief Engineer William Hennessy of the Bureau, for their cooperation in making this copy of the log of the Queens Fire Alarm Office available for our readers.

Fires won't wait while you struggle with unwieldy hose.

That's why experienced firefighters have preferred *Hewitt Fire Hose* for over 75 years!

They know it is light and flexible for fast action . . . yet rugged for long life. They know, too, that its quality construction minimizes elongation and twisting . . . assures high burst-resistance.

Learn how *Hewitt Fire Hose* can help you. Write today.

HEWITT RUBBER DIVISION
240 Kensington Avenue, Buffalo 5, New York

HEWITT FIRE HOSE

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HEWITT-ROBINS INCORPORATED

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For the Modern Fire Fighter . . .

Recognized by the Fire Service as Standard

Questions and Answers for Lieutenant and Captain—$2.50

Promotional Study Course for Firemen—$3.00

Fire Chief's Handbook—$4.00

Fire Service Hydraulics—$3.00

(The Above Prices Are All Postpaid)

CASE-SHEPPERD-MANN PUBLISHING CORP.
24 West 40th Street
New York 18, N. Y.

3:35 A.M. E 303-294 back.
3:40 A.M. L 151 back.
4:15 A.M. L 126 back.
4:32 A.M. L 125 back.
4:34 A.M. L 127 back.
4:40 A.M. Searchlight 24 and L 142 back.
4:42 A.M. L 150 back.
5:48 A.M. E 270 back.

The prompt response and efficient work of the members of the New York Fire Department, aided by volunteer firemen and rescue workers who came from many Nassau County communities, are credited with the saving of many lives. The telescoping of the two cars, jammed with commuters and others, greatly complicated the problem of removing the victims, some of whom were not extricated for hours.

The smashup again demonstrated the need of large supplies of such equipment as portable lighting generators, flood and searchlights; oxacetylene and other cutting tools; heavy duty rescue equipment including powerful jacks; short, strong ladders and forcible entry tools. Blood plasma was in great demand and hospitals broadcast appeals for blood donors, which were answered immediately by thousands of persons who crowded hospitals. Blankets, tarpaulins and body bags were in heavy demand and, as indicated above, the fire department was so pressed that Chief Loftus ordered body bags that were used to convey victims to Queens General Hospital rushed back for further use.

Many victims commented on the prompt operations of the firemen. First on the scene, they had a powerful psychological affect on the trapped victims. This is a factor in rescue work that is often overlooked by those who control disaster and civil defense operations. It is another powerful argument for the rapid deployment—and employment of the uniformed, trained and equipped emergency forces in time of crisis.

Plans Set for Memphis Fire Department Instructors Conference

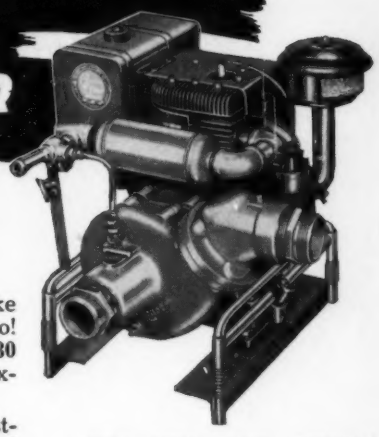
The Twenty-third Annual Fire Department Instructors Conference will be held in Memphis, January 9-12, 1951, it is announced by Richard E. Vernor, Conference Chairman. As in the past, the Conference will be held under the sponsorship of the Western Actuarial Bureau and the Memphis Fire Department.

The Conference which is attended by fire chiefs, fire officers, drillmasters, fire prevention authorities, university and vocational educators, inspection bureau engineers, representatives of state, city and national government, and many others connected with the fire service, is the clearing house for the latest information in firemanship and training.

As usual there will be an outstanding program of education and entertainment. It is understood that emphasis will again be placed on panel discussions and symposiums covering the most timely and important subjects in the broad range of fire protection and fire prevention.

Chairman Vernor urges those who expect to attend the Conference to make their hotel reservations at the earliest possible date. Reservations may be made through "Hotel Reservation, F.D. I.C., c/o Fire Prevention Bureau or Fire Alarm Dispatch Office, 65 So. Front Street, Memphis 3, Tenn."

The DUAL FIRE FIGHTER



SPEEDS the WATER TO THE FIRE

Easily carried by two men to lake or stream where heavy truck can't go!

Water starts flowing **in 15 to 30 seconds,** by means of a simple exhaust primer.

Save the big pumper possible costly damage in trying to reach isolated water supply.

By relaying water to the truck pumper or in fighting fires direct, the **quick action** of the Dual Fire Fighter has won the fight against hundreds of fires.

THE DUAL FIRE FIGHTER

- **Throws 100 gallons at 80 pounds pressure or 50 gallons at 100 pounds pressure.**
- **Delivers 200 gallons at 30 pounds to the pumper for two 1½ inch lines.**

Powered by an 8¼ HP 4 cycle air cooled engine

Write for information bulletin No. 9-FD-11

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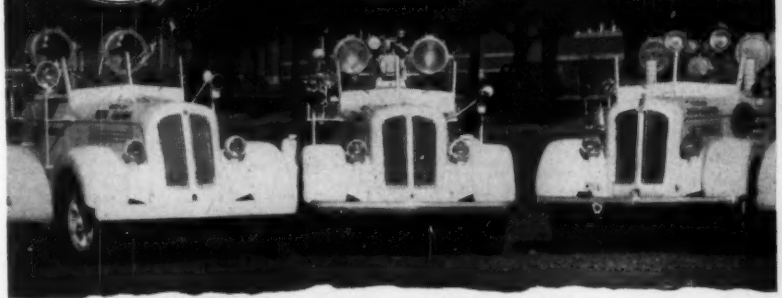
UNITED STATES MOTORS CORPORATION — US — OSHKOSH, WISCONSIN

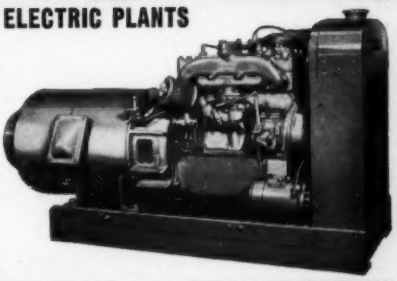
...can throw light on your problems, too!



"US" BUILDS A COMPLETE LINE OF ELECTRIC PLANTS

"US" Portable Electric Plants furnish power for the searchlights on these New Haven fire trucks serving in the center of Connecticut's industries.

"US" units are famous for economy of operation, accessibility, rugged construction, and above all—**dependability.** Complete line includes units from ½ to 200 KW. Write for information.



UNITED STATES MOTORS CORP.
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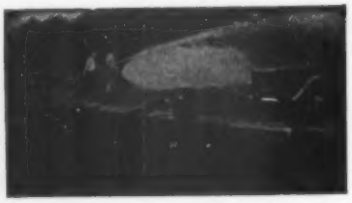
HALE Type FZZ

• Quick-Starting • Portable
• Compact • Powerful
• Versatile



The Hale FZZ Portable Pumping Unit shown is pumping fog and solid stream through 1½" lines. Foam proportioner available at slight additional cost.

The FZZ will supply from draft, 60 GPM at 90 lbs. pump pressure; and 150 GPM at 30 lbs. Can supply two capable streams through 1½" lines, using nozzle tips up to ½". **Note:** Discharge Adapter can be supplied for use with 2½" fire hose.

The Unit is available in carrying frame; mounted on wheels; or on rubber-cushioned steel channels. Can be mounted or carried on virtually any equipment for fighting brush fires while in motion using booster tank for water supply.

Write for new FZZ folder today.
Ask for Demonstration.

HALE FIRE PUMP COMPANY
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Fire Pumps in All Standard Capacities

Floodlighting

WHERE YOU NEED IT!

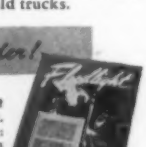
ONAN *Portable* **ELECTRIC PLANTS**

EASILY CARRIED
Lightweight and compact, Onan Electric Plants can be hurried to the spot where needed. Supply current for floodlights, electric saws, drills and other tools. Always ready for instant use.

FIT INTO SMALL SPACE
Compact, self-contained Onan Electric plants can be ordered as standard equipment with many makes of new fire trucks. Just a few square inches of mounting space required for installation on old trucks.

Write for **FREE** *Folder!*

New folder shows many lightweight models for fire department use. D.C.: 1200 to 5,000 watts. A.C.: 350 to 3,000 watts. Large plants for emergency operation of signal systems to 35,000 watts.



Onan **D. W. ONAN & SONS INC.**
5677 Royalston Ave., Minneapolis 5, Minn.

Fire Service Ladders

(*Continued from page* 982)

ing is experienced when the ladder is used as a water tower or for other purposes involving cantilever loading without outer support. Such loading involves an entirely different series of stresses, especially in the ladder trusses which go into tension instead of compression as is the case under the conditions which he has outlined in the foregoing for normal usage.[1]

The common condition is that of a man at the top of the ladder directing a ladder pipe nozzle, and working at a minimum angle of 70 degrees from horizontal. Mr. Haven's company does not recommend an extension of over 80 feet for this operation but full extension being assumed, the load including hose and water is equivalent to about 375 lbs. at the top of the ladder (for a 100 ft. ladder) and adding 50 percent to this makes a total of 560 lbs. test load at 70 degrees. This is equal to approximately 275 lbs. at 45 degrees hoisted position, he states.

As a test, Mr. Havens suggests that at 45 degrees angle and the ladder fully extended, a load of 260 lbs. be applied to the middle of the outer rung. After the tests the ladder should be carefully inspected, special atention being given to welded or riveted joints.

Each test also, he believes, should include a check to determine whether or not the ladder returns to its original position after the load is removed, allowance being made in the case of the cantilever test for any possible ladder drift.

Mr. Havens also approved the method of testing advocated in the preceding (November) chapter of this treatise, namely: suspending the test weights on ropes or cables attached to the ladder.[2]

[1] Although detailed procedure for testing of the Pirsch aluminum alloy arial ladder has not been received, the method which the Peter Pirsch Company follows, as outlined to FIRE ENGINEERING, is to put about double the weight on the ladder when up, and at various degrees of angle, with double the load it would get in actual service. Sights are taken along the sides (rails) of the ladder and then the weight is released to see if the ladder "snaps back" in its original shape. If it does, it is O.K. according to Mr. Peter Pirsch, who states that his tests are all with ladder fully extended and roped from the top rung. Check is made to see that the ladders do not exceed the elastic limit in this way. According to the Company's announcements published in FIRE ENGINEERING, the acceptance test of the New York Fire Department for Pirsch type ladders calls for the ladder to stand a 500-lb. weight suspended from the ladder at 45 deg. angle. In the water tower test, the ladder must withstand 250 lb. pump pressure with 1¼ in. nozzle through 100 ft. of 2½ in. hose with ladder at 60 degrees. Factory tests of this type aerial ladder are made using a weight of 775 lbs. suspended from the tip of the ladder when fully extended.

Keystone Fire Chiefs

(*Continued from page* 990)

and Leonard Roberts, of Trevose, second vice president. Re-elected for financial secretary was J. W. Johnson, Linwood and L. M. Atkinson, Malvern, recording secretary.

At the business session, the fire chiefs went on record opposed to the plan used by some Civil Defense officials for the abandonment of fire department and company sirens. They unanimously approved a resolution condemning the discontinuance of sirens similar to the resolution adopted by the International Association of Fire Chiefs at their annual

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THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON "JANESVILLE" QUALITY

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To Every FIRE FIGHTER in America

Our Greetings and Our Thanks

With our hearty greetings of the Holiday Season we thank every Fire Fighter in our country for the loyal service he renders as a fighter and also for his continued loyalty as a perennial customer of Fire-End Products. For the year ahead we recommend:

- **Fire-End Fire Ext.**
- **Fire-End Municipal Fire Hose**
- **Our High Quality Brass Fittings**
- **Our complete Line of Fire Fighting Accessories**

Prompt shipment from New York stocks. Send for our free new #51 Catalog. Just off the press.

FIRE-END PRODUCTS
19-21 Beekman St., New York

convention in San Francisco in September.

Following the business session, the group toured the Valley Forge General Army Hospital. The tour was under the direction of Fire Chief James H. Mathes and Assistant fire chief Lewis Kirk. The tour had been arranged by Fire Chief James Dunn, of the Phoenixville Department.

The Spring meeting of the Association will be held as the guests of the Flourtown Fire Company, of Flourtown, Montgomery County, on the third Saturday in May. WALTER C. SMITH, JR.

I.A.F.C. Making Military Manpower Survey

What is the status of the fire service in the military manpower picture? How many officers and men have been, or will be called up for military service? How many in the active and inactive reserve?

These and related questions may soon be answered as a result of a questionnaire survey being made among fire service official personnel by the headquarters office of International Association of Fire Chiefs.

According to James E. Jagger, general manager of the Association, a high percentage of returns are being received from the questionnaire and these data, when collated, will be distributed to members of the Association and others.

New York City Starts Work on Largest Fire Radio Installation

Work has commenced on a $586,000.00 contract, covering the installation of four F. M. radio systems for the New York Fire Department, according to Fire Commissioner Frank J. Quayle. As announced in the October FIRE ENGINEERING, the new F.M. system will supplement the regular wired fire alarm system and will considerably increase the efficiency of the fire extinguishing operations of the department. The system will also play an important role in the plans for Civil Defense for the City of New York, for the facilities proposed are expected to provide service when all other communication facilities may be partially destroyed as a result of sabotage or enemy action.

The contract calls for completion of the work by May 15, 1951, at which time the department vehicles of all Commissioners and Chief Officers of the department, the mobile apparatus of all engine companies, hook and ladder companies, special apparatus and fireboats will be equipped with the most modern two-way F.M. radio telephone facilities. The mobile equipment of the department consisting of 103 sedans, 353 mobile units of fire fighting companies, 34 special pieces of apparatus and 11 fireboats will be equipped with these radio facilities. In addition, 45 receiver units will be provided at quarters of Chief Officers.

There will be four separate systems, one for City wide operation to serve top level officials and the fireboat fleet, and one system each to cover the fire apparatus of the Boroughs of Manhattan-Bronx, the Boroughs of Brooklyn-Queens, and the Borough of Richmond. Each system will have its own control point and will be operated on its own pair of frequencies. The design of the

STERLING SIRENS

NOT BY CHANCE . . . First in Precision Manufacturing of High Grade SIREN FIRE ALARMS

STERLING, for years has combined highest quality materials with precision manufacturing to provide sirens that will operate reliably year after year without failure. There's a STERLING Siren for every emergency use.

FOR EMERGENCY VEHICLES
Model 20 SIRENLITE • Powerful Flashing Beam • Smooth Operation • Streamlined • Chromium Finish • Dependable Service

FOR VOLUNTEER FIRE ALARM SYSTEMS
Model M SIREN • Big • Rugged • Powerful • Dependable • Quick Accelerating • Highest Quality Material Used

Complete Line of Siren Equipment Available. Bulletin on Request.

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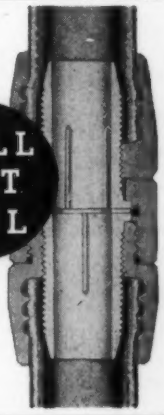
58 Allen St., Rochester 6, N. Y.

BAR-WAY HOSE COUPLINGS
FOR BOOSTER and HIGH PRESSURE FOG LINES

REMOUNTABLE — without the purchase of additional parts; use over and over again
FULL FLOW — no suppression of flow in coupling
HIGH PRESSURE — tested to 3000 lb., 500 lb. pull
INTERNAL EXPANSION — no shrinkage of hose at coupling
STREAMLINED — free from objectionable projections
ACCURATELY MACHINED — always the same . . . interchangeable

For maximum efficiency, economy and protection in ¾" and 1" sizes, specify Bar-Way couplings attached to hose of proper size.

WILL NOT FAIL



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STAMFORD, CONN.
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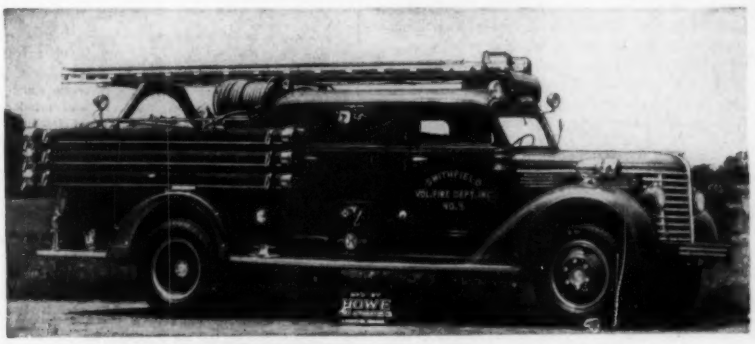

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Centrifugal, Rotary and Piston Pumps Supplied
HOWE FIRE APPARATUS CO., 1402 W. 22nd St., Anderson, Indiana

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MEMORIALS • AWARDS • TESTIMONIALS

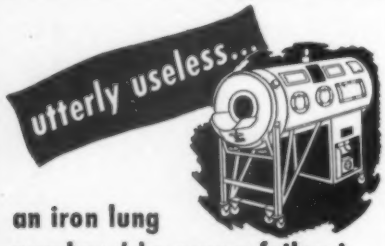
COMMEMORATIVE PLAQUES

Every fire department . . . every fire house . . . should keep on hand this big 48-page catalog, illustrating 150 suggestions for handsome, imperishable, solid bronze tablets. Sent free—ask for Catalog FE1.

TROPHIES and MEDALS, TOO!

Special catalog illustrates 900 cups, trophies, medals, etc. suitable for presentation as prizes and awards in all kinds of contests, or for testimonial purposes. Sent free — ask for Catalog FE2.

INTERNATIONAL BRONZE TABLET CO., INC. 150 WEST 22nd ST. NEW YORK 11 N. Y.



an iron lung paralyzed by power failure!

Power failure can happen any time, to anybody—to you! Lack of light and power can be costly . . . even tragic. Isn't it better to prepare for emergencies by installing a Fairbanks-Morse generating set?

Because standby power service costs so little—means so much—even for small hospitals, businesses, theaters, fire and police departments, churches, schools and institutions—none should be without a Fairbanks-Morse generator! Let your Fairbanks-Morse dealer give you full information about a generator to meet your needs. Or, mail the coupon for full facts today.

FAIRBANKS-MORSE,

a name worth remembering

Fairbanks, Morse & Co.
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Send us illustrated literature describing your emergency generating sets.

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system is such that dependable communication will be available between one mobile station and another mobile station, or between a station of the New York Telephone Company and a mobile station. The radio equipment, however, will be highly selective so that each system will be free of interference from the other three. The four systems as they will be constructed, will form a comprehensive network of communication facilities said to be larger than any similar system installed anywhere.

The proposed facilities will replace the present A.M. radio system which has been in operation since 1936 and is now obsolete. The present system provides radio service to officials of the department, the eleven fireboats and a few special pieces of equipment. It is wholly inadequate to serve the present day needs of the department.

The new F.M. system which was developed by experts of the Fire Alarm Telegraph Bureau, Deputy Chief of Department Thomas P. O'Brien in charge, will make possible the re-direction of the movements of fire companies while absent from their quarters and out of contact with the regular wired alarm service, thereby providing protection for areas temporarily stripped of fire apparatus by several simultaneous alarms in the same general area. During emergencies when fire alarm, telephone and power facilities may be temporarily disabled, the new radio facilities will provide dependable communication services for the Fire Department.

Schenectady Firemen in Fund Drive for Youngsters

One of those extra-curricular, but goodwill building activities indulged in by some enterprising fire departments, made the headlines in Schenectady, N. Y., when members of the city's fire department, of which Chief James Higgins is head, teamed up with the local Kiwanis Club and other groups, and the *Union-Star* to boost a money raising drive for the Youth Service fund. The fire department's part included laddering buildings to enable solicitors to reach "hard-to-get" subscribers.

Classified Advertisements

Rate $8 per inch less 10% for three or more consecutive insertions. Closing date for copy 25th of month preceding date of issue.

FOR SALE

One Model A.C.C.D. 1925 Mack Fire Truck (Pumper) 750-gallon pump, perfect mechanically, all new tires, 1200 ft. hose body, windshield, standard equipment, power brakes. Price $1200.

HUNTINGTON MANOR FIRE DISTRICT
Huntington Station, New York
Telephone Huntington 1629

FOR SALE

1—1943 Seagrave, Combination 750 G.P.M. pump, New Aluminum ladders. Mileage 1900 miles. Good condition.
1—1943 Chevrolet, 500 G.P.M. Hale Pump. Good condition.
1—1943 Chevrolet, High Pressure Hardie Pump. Good condition.
1—Skid Pump with Chrysler Engine and Hale 500 Gal. Pump. Good condition.

NORTHWEST MOTORS
711 Marietta Street, N.W.
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Phone: Main 1706

FOR SALE

American-LaFrance 1000 gallon pumper. Engine overhauled and all bronze pump rebuilt this year. Good paint and pneumatic tires. Must be inspected to be appreciated.

WELDON FIRE CO.
421 N. Easton Road
Glenside, Penna.

WANTED

Dealer—Distributors to sell fire apparatus manufactured by well-known Factory. Also popular line of high grade fire hose. Prompt Delivery. Attractive proposition. Address Box 15, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

FOR SALE

Triple Combination Pumper

1940 Dodge Cab Chassis. American Marsh 500 g.p.m. Standard Equipment. 500 gal. Booster Tank.

LONG HILL FIRE CO.
H. Senz, Chief
Chatham, New Jersey

DEMONSTRATORS FOR SALE

DODGE POWER WAGON—4 WHEEL DRIVE

DIAMOND T—FLOOD LIGHT

AND EMERGENCY TRUCK

H. & H. TRUCK TANK CO., INC.
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Jersey City 7, New Jersey

FOR SALE

20—3½-gal. C.T.C. fire extinguishers on wheels. Popular Brands. All in 1st class condition. Less charges. Shipped prepaid, $37.50.

CARL RICHTER
716 Seiler Ave.
Savannah, Georgia

ATTENTION!
ALL FIRE DEPARTMENTS

Black Rubber Coats—Turnout Coats—Factory Repaired—Torn Boot Tops—Replaced like new—$4.00 Pair. Save Money—All work guaranteed—Freight paid one way.

HARRY GODFREY
40 Union Square, New York 3, N. Y.

POSITION WANTED

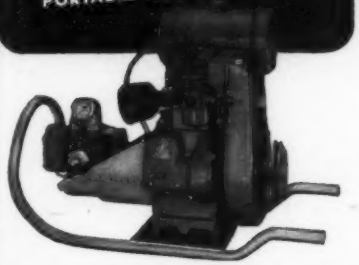
Fire Protection Field—in Municipality or Plant. 26 Years of Experience in Fire Engineering, Fire-Fighting, Fire Prevention, Maintenance Supervision and Personnel Training. Age 45, Married, unlimited references. Write to Box 200, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

PERSONAL FIRE ESCAPE

Agents wanted to sell a light all metal fire escape suitable for homes, apartment houses, schools, inns, etc. Descriptive information upon request.

PERSONAL FIRE ESCAPE CORP.
295 East 42nd St.
New York City

PACIFIC PUMPER
—AMERICA'S "No. 1" PORTABLE FIRE-FIGHTER!



Powerful, dependable, and easy to transport, Pacific Pumpers conform perfectly to fire protection needs in forests, industries, resorts, small communities. The Model W, most recent addition to an extensive line, is powered by a 4-cycle air-cooled engine, delivers 14 g.p.m. at 300 p.s.i. or 22 g.p.m. at 50 p.s.i., weighs only 90 lbs. Write for helpful literature on portable pumpers, and catalog of hose, nozzles, fire-fighting accessories.

PACIFIC Marine Supply Co.
FIRE EQUIPMENT DIVISION
SEATTLE 1, WASHINGTON

INVINCIBLE NOZZLES

Fireboat Tower Nozzle

with full Transverse Control

•

Figure 114-B —one of many— made by pioneers in nozzle manufacture.

•

"ALL AMERICAN CHOICE"

•

Latest Design

•

Operated by Remote Control

•

F. N. McINTIRE BRASS WORKS
Boston, Mass.
1837 — 1950

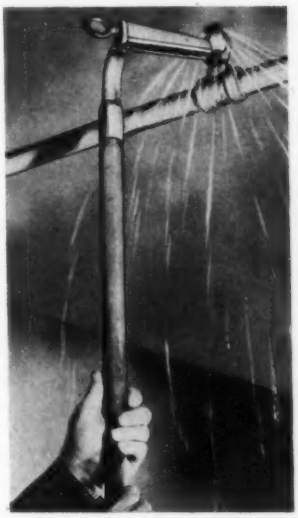
News of the Manufacturers

(*Continued from page* 991)

push button start and automatic stop and remote control and is said to be accurate to close limitations. Pilot lights tell when current is on and the device working. A red light indicates the timing of the signal being sent. Both lights cut out automatically when the signal has been completed.

Another New Sprinkler Stopper

Interest in sprinkler protection continues apace, with the introduction of another new sprinkler stopper.



New Sprinkler Stopper

This device, which has the approval of the New York Board of Standards and Appeals, is produced by Sprinkler Stopper Co., 170 So. Van Brunt St., Maplewood, N. J. It is simple in design and operation, consisting of a unit which fits on the end of a short pole and is easily inserted in the ring of the sprinkler to immediately shut off the flow of water.

The sprinkler stopper is essentially a wedge, with a three-layer rubber diaphragm which covers the outlet, pressure being maintained by a simple mechanical spring in the assembly. Attached as it is to the pole, it is easy to remove the device and the dangling rod serves notive that the sprinkler head is temporarily out of operation.

Wheaton Modernizes

The Wheaton, Ill., Fire Department. E. H. Holstein Fire Marshal, a year ago instituted a five year program calling for extensive modernization of the department. First of the new units is a rescue truck scheduled for delivery Nov. 2nd of this year; this will be followed early in 1951 by delivery of a new quad.

The rescue unit will carry in addition to the usual first aid equipment, two-way radio, salvage covers, a new portable Monaghan iron lung and oxygen apparatus. This piece of apparatus was co-sponsored by the Veterans of Foreign Wars and the Fire Department. The local Lions Club donated the iron lung.

FIREMEN'S UNIFORMS

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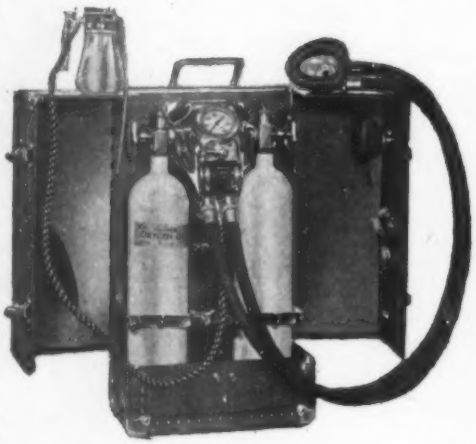

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ADVERTISING INDEX

FIRE ENGINEERING
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	Page
Akron Brass Mfg. Co., Inc.	964
Aluminum Ladder Co.	1013
American-LaFrance-Foamite Corp.	957
American-Marsh Pumps, Inc.	963
Ansul Chemical Co., Fire Extinguisher Div.	999
Approved Fire Equipment Co.	1005
Aquadyne Corp.	996
Argus lite Company	1004
Atlas Safety Equipment Co., Inc.	956
Audio Equipment Corp.	1014
Bar-Way Mfg. Co.	1019
Bean Mfg. Co., John	967
Blackinton & Co., V. H.	966
Body Guard Mfg. Co.	1014
Boyer Fire Apparatus Co.	1006
Braxmar Co., C. G.	1002
Buckeye Iron & Brass Works	1009
Cairns & Brother	970
Carpenter Manufacturing Co.	1016
Central Fire Truck Corp.	1015
Circul-Air Corp.	1010
Darley & Co., W. S.	1010
Duo Safety Ladder Corp.	965
E and J Manufacturing Co.	955
Elkhart Brass Mfg. Co., Inc.	1015
Emerson Co., J. H.	Inside Front Cover
Eureka Fire Hose Div., U. S. Rubber Co.	995
Everson-Ross, Inc.	958
Fabric Fire Hose Co.	953
Fairbanks, Morse & Co.	1020
Federal Enterprises, Inc., Signal Div.	951
Fire-End Products	1018
Fire-Lite Alarms	1021
Firewater Company, The; Div. of the Pacific Supply Co.	1014
Foard & Co., F. C.	1016
Four Wheel Drive Auto Co.	Back Cover
Gamewell Co.	972
Gorman-Rupp Co.	1017
H & H Truck Tank Co., Inc.	1008
Hale Fire Pump Co.	1013; 1018
Halprin Supply Co.	1000
Harrington Signal Co.	1014
Hedberg, J. N.	1022
Hewitt-Robins, Inc.	1016
Howe Fire Apparatus Co.	1019
Hurst Industries, Inc.	998
International Bronze Tablet Co., Inc.	1020
Janesville Apparel Co.	1018
Kim Hotstart Mfg. Co.	971
McIntire Brass Works, F. N.	1021
Mack Mfg. Corp.	954
Maxim Motor Company	959
Midwestern Mfg. Co.	997
Motorola, Inc.	968
National Foam Systems, Inc.	1006
Oberdorfer Foundries, Inc.	1000
Onan & Sons, Inc., D. W.	1018
Oren-Roanoke Corp.	969
Pacific Marine Supply Co., Fire Equipment Div.	1021
Pirsch & Sons Co., Peter	Inside Back Cover
Powhatan Brass & Iron Works	1004
Quaker Rubber Corp.	1007
Radio Apparatus Corp.	1012
Radio Corp. of America	961
Republic Rubber Div., Lee Rubber & Tire Corp.	962
Rockwood Sprinkler Co.	1003
Russell Uniform Co.	1021
Scott Aviation Corp.	1011
Smith & Co., D. B.	1001
Stephenson Corp.	1022
Sterling Siren Fire Alarm Co., Inc.	1019
Trippe Mfg. Co.	1012
U. S. Motors Co.	1017
Waukesha Motor Co.	960
Wooster Brass Co., The	1005

RING

Page
964
013
957
963

999
005
996
004
956
014

019
967
965
014
002
009

970
016
015
010

010
965

955
015
over

995
958

953
020
951
018
021

014
016
over

972
017

008
018
000
014
022
016
019
998

020

018

971

021
954
959
997
968

006

000
018
969

021
Cover
004

007

012
961

962
003
021

011
001
022
019

012

017

960
005